

SEARCH REQUEST FORM

Scientific and Technical Information Center

Requester's Full Name: Yvette Thornton Examiner #: 76102 Date: 8/2/03
 Art Unit: 1752 Phone Number 305-0589 Serial Number: 10-060131
 Mail Box and Bldg/Room Location: CP3 9B11 Results Format Preferred (circle): PAPER DISK E-MAIL

If more than one search is submitted, please prioritize searches in order of need.

Please provide a detailed statement of the search topic, and describe as specifically as possible the subject matter to be searched. Include the elected species or structures, keywords, synonyms, acronyms, and registry numbers, and combine with the concept or utility of the invention. Define any terms that may have a special meaning. Give examples or relevant citations, authors, etc, if known. Please attach a copy of the cover sheet, pertinent claims, and abstract.

Title of Invention: Photopolymerizable Composition + recording material
 Inventors (please provide full names): Masanobu Takashima
Yuuichi Fukushima

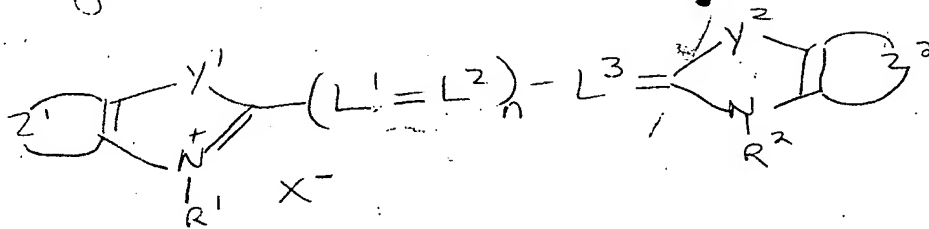
Earliest Priority Filing Date: 2/1/01 US 2002 014 2244

For Sequence Searches Only Please include all pertinent information (parent, child, divisional, or issued patent numbers) along with the appropriate serial number.

Photopolymerizable Composition

- 1) polymerizable Compound
- 2) compound of formula (1) ★
- 3) radical generator

(1)



R_1, R_2 = aliphatic, aromatic group

Y^1, Y^2 = S, O, CR^3R^4 , Se, Te

R_3, R_4 = H, aliphatic, aromatic

★ Z^1 = ~~aromatic~~ heterocyclic

Z^2 = aromatic or heterocyclic

L^1, L^2, L^3 = methine

Thank you!

STAFF USE ONLY

Searcher: Calve
 Searcher Phone #: _____
 Searcher Location: _____
 Date Searcher Picked Up: 8/11/03
 Date Completed: 8/11/03
 Searcher Prep & Review Time: 120
 Clerical Prep Time: _____
 Online Time: 120

Type of Search

NA Sequence (#) _____
 AA Sequence (#) 2
 Structure (#) ✓
 Bibliographic _____
 Litigation _____
 Fulltext _____
 Patent Family _____
 Other _____

Vendors and cost where applicable

STN ✓
 Dialog 30
 Questel/Orbit ✓
 Dr.Link _____
 Lexis/Nexis _____
 Sequence Systems _____
 WWW/Internet _____
 Other (specify) _____



STIC Search Results Feedback Form

EIC17000

Questions about the scope or the results of the search? Contact *the EIC searcher* or contact:

Kathleen Fuller, EIC 1700 Team Leader
308-4290, CP3/4-3D62

Y. Thornton QB11

Voluntary Results Feedback Form

- I am an examiner in Workgroup: Example: 1713
➤ Relevant prior art **found**, search results used as follows:

- ☐ 102 rejection
 - ☐ 103 rejection
 - ☐ Cited as being of interest.
 - ☐ Helped examiner better understand the invention.
 - ☐ Helped examiner better understand the state of the art in their technology.
- all 6566 035

Types of relevant prior art found:

- ☐ Foreign Patent(s)
- ☐ Non-Patent Literature
(journal articles, conference proceedings, new product announcements etc.)

- Relevant prior art **not found**:

- ☐ Results verified the lack of relevant prior art (helped determine patentability).
- ☐ Results were not useful in determining patentability or understanding the invention.

Comments:

Drop off or send completed forms to STIC/EIC1700 CP3/4 3D62



both searches

=> file reg

FILE 'REGISTRY' ENTERED AT 10:39:31 ON 11 AUG 2003
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Property values tagged with IC are from the ZIC/VINITI data file
provided by InfoChem.

STRUCTURE FILE UPDATES: 8 AUG 2003 HIGHEST RN 563538-18-1
DICTIONARY FILE UPDATES: 8 AUG 2003 HIGHEST RN 563538-18-1

=> d his

(FILE 'HOME' ENTERED AT 08:46:48 ON 11 AUG 2003)

FILE 'HCA' ENTERED AT 08:46:56 ON 11 AUG 2003
E US20020142244/PN

L1 1 S E3
SEL L1 RN

FILE 'REGISTRY' ENTERED AT 08:47:34 ON 11 AUG 2003
L2 12 S E1-E12

FILE 'HCA' ENTERED AT 08:47:43 ON 11 AUG 2003
E US20020182530/PN
E US20020182530/PN

L3 1 S E3
SEL L3 RN

FILE 'REGISTRY' ENTERED AT 08:48:48 ON 11 AUG 2003
L4 13 S E1-E13

FILE 'HCA' ENTERED AT 08:49:51 ON 11 AUG 2003

FILE 'REGISTRY' ENTERED AT 08:50:20 ON 11 AUG 2003
L5 25 S L2 OR L4

FILE 'LREGISTRY' ENTERED AT 09:32:52 ON 11 AUG 2003
L6 STR
L7 SCR 1015

FILE 'REGISTRY' ENTERED AT 09:40:55 ON 11 AUG 2003
L8 50 S L6 AND L7

FILE 'LREGISTRY' ENTERED AT 09:43:57 ON 11 AUG 2003
L9 STR L6

FILE 'REGISTRY' ENTERED AT 10:02:50 ON 11 AUG 2003
L10 50 S L6 AND L7
L11 24103 S L6 AND L7 FULL
SAVE L11 THOR131153/A
L12 50 S L9 SSS SAM SUB=L11

FILE 'LREGISTRY' ENTERED AT 10:05:35 ON 11 AUG 2003

FILE 'REGISTRY' ENTERED AT 10:09:27 ON 11 AUG 2003

L13 17 S L12 AND 3-5/NR
L14 10 S L13 AND 0-4/NR
L15 7 S L13 NOT L14
L16 50 S L9 SSS SAM SUB=L11
L17 1254 S L9 SSS FULL SUB=L11
SAVE L17 THORN131A/A
L18 238 S L17 AND 0-4/NR
L19 501 S L17 AND 0-5/NR
L20 263 S L19 NOT L18

FILE 'HCA' ENTERED AT 10:15:01 ON 11 AUG 2003

L21 64 S L18
L22 242883 S BORON# OR BORATE##
L23 1 S L21 AND L22
L24 64 S L1 OR L21
L25 1 S L1 OR L23
L26 9508 S PHOTOIMAG?

FILE 'LCA' ENTERED AT 10:18:52 ON 11 AUG 2003

FILE 'HCA' ENTERED AT 10:21:02 ON 11 AUG 2003

L27 57 S L21 AND 1907-2000/PY, PRY
L28 408242 S 74/SX, SC
L29 49524 S 41/SC, SX
L30 41 S L27 AND L28
L31 19 S L27 AND L29

FILE 'LREGISTRY' ENTERED AT 10:22:36 ON 11 AUG 2003

L32 63 S PHOTOPOLYM? OR PHOTO(W)POLYM? POLYMERIZ? OR POLYMERIS? OR POL

FILE 'HCA' ENTERED AT 10:25:57 ON 11 AUG 2003

L33 675285 S L32
L34 1 S L27 AND L32
L35 0 S L27 AND L26
L36 1 S L21 AND L26
L37 55017 S RECORD?(2N) (MEDIA? OR MEDIUM? OR MATER? OR SUBST?)
L38 2 S L27 AND L37
L39 4 S L23 OR L25 OR L34 OR L36 OR L38

FILE 'LCA' ENTERED AT 10:28:49 ON 11 AUG 2003

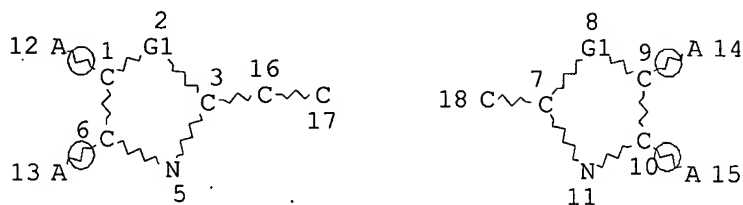
L40 2399 S COLOR? OR COLOUR? OR DYE? OR PIGMENT? OR STAIN? OR PAINT? OR
L41 613 S HOLOGRAM? OR PROOF## OR SEALANT? OR ADHESIVE? OR LITHOGRAPH?
L42 3047 S UV OR IR OR VISIBLE? OR ULTRA?(N)VIOLET? OR INFRARED?

FILE 'HCA' ENTERED AT 10:34:32 ON 11 AUG 2003

L43 53 S L27 AND L40
L44 1 S L43 AND L41
L45 11 S L27 AND L42
L46 44134 S (SILVER# OR AG) (2N) HALIDE?
L47 37 S L27 AND L46
L48 20 S L27 NOT L47
L49 36840 S PHOTORESIST? OR PHOTO(W)RESIST?
L50 1 S L48 AND L49
L51 20 S L48 AND (L37 OR L40 OR L41 OR L42)
L52 5 S L39 OR L44 OR L50
L53 18 S L51 NOT L52
L54 35 S L27 NOT (L52 OR L53)
L55 35 S L54 AND L46

FILE 'REGISTRY' ENTERED AT 10:39:31 ON 11 AUG 2003

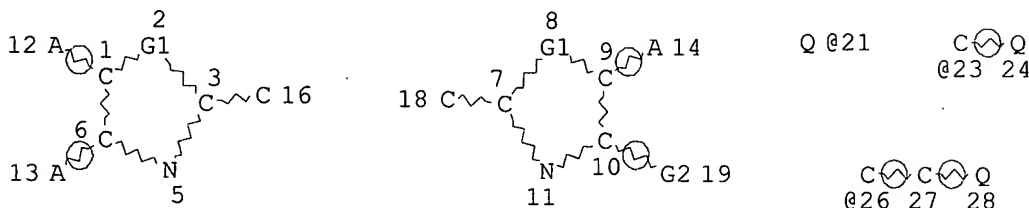
=> d que stat L17
L6 STR



VAR G1=S/O/C/SE/TE
NODE ATTRIBUTES:
DEFAULT MLEVEL IS ATOM
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS 17

STEREO ATTRIBUTES: NONE
L7 SCR 1015
L9 STR



VAR G1=S/O/C/SE/TE
VAR G2=21/23/26
NODE ATTRIBUTES:
DEFAULT MLEVEL IS ATOM
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS 22

STEREO ATTRIBUTES: NONE
L11 24103 SEA FILE=REGISTRY SSS FUL L6 AND L7
L17 1254 SEA FILE=REGISTRY SUB=L11 SSS FUL L9

100.0% PROCESSED 24103 ITERATIONS
SEARCH TIME: 00.00.01

1254 ANSWERS

=> file hca

FILE 'HCA' ENTERED AT 10:40:17 ON 11 AUG 2003
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FILE COVERS 1907 - 7 Aug 2003 VOL 139 ISS 7
FILE LAST UPDATED: 7 Aug 2003 (20030807/ED)

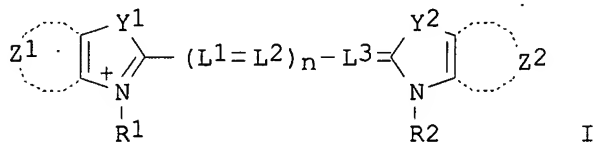
This file contains CAS Registry Numbers for easy and accurate substance identification.

=> d L52 1-5 ibib abs hitind hitstr

L52 ANSWER 1 OF 5 HCA. COPYRIGHT 2003 ACS on STN

ACCESSION NUMBER: 137:177095 HCA
TITLE: Photopolymerizable composition containing organic borate photopolymerization initiator for photoimaging recording material
INVENTOR(S): Takashima, Masanobu; Fukushige, Yuichi
PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 44 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2002229196	A2	20020814	JP 2001-25900	20010201
US 2002142244	A1	20021003	US 2002-60131	20020201 <--
PRIORITY APPLN. INFO.:			JP 2001-25900 A	20010201
OTHER SOURCE(S):	MARPAT 137:177095			
GI				



AB The photopolymerizable compn. comprises a polymerizable compd. I (R1,2 = aliph., arom.; Y1,2 = S, O, etc.; Z1 = heterocyclyl, arom. ring condensed from heterocyclyl; Z2 = arom., heterocyclyl; L1-3 = methine; n = 0-3; and X- = anion) having an ethylenic unsatd. bond and a radical generator

forming a radical upon reacting with the polymerizable compd. The radical generator is an org. **borate** R11R12R13R14B- G+ (R11-14 = aliph., arom., heterocyclyl; and G+ = anion). The recording material comprises a color-forming component (A) encapsulated in a microcapsule and a color-forming component (B) includes the polymerizable compd. The photopolymerizable compn. showed high sensitivity not only to UV light but also to light ranging from visible to IR.

IC ICM G03F007-004

ICS G03F007-004; G03F007-027; G03F007-029

CC 74-4 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

Section cross-reference(s): 35, 38, 41

ST photopolymerizable compn org **borate** photopolymn initiator
photoimaging recording material; methine dye photopolymerizable compn

IT Cyanine dyes

Optical recording materials

(photopolymerizable compn. contg. dye and org. **borate**
photopolymn. initiator for **photoimaging** recording material)

IT **Photoimaging** materials

(photopolymerizable; photopolymerizable compn. contg. dye and org.
borate photopolymn. initiator for **photoimaging**
recording material)

IT Polymerization catalysts

(photopolymn.; photopolymerizable compn. contg. dye and org.
borate photopolymn. initiator for **photoimaging**
recording material)

IT 98570-20-8 446233-06-3 446233-12-1 446233-17-6
446233-20-1 446233-23-4 446233-27-8 446233-31-4
446242-78-0

RL: TEM (Technical or engineered material use); USES (Uses)
(dye; photopolymerizable compn. contg. dye and org. **borate**
photopolymn. initiator for **photoimaging** recording material)

IT 110586-14-6P, Benzyl methacrylate-methacrylic acid-pentaerythritol
tetraacrylate copolymer

RL: PNU (Preparation, unclassified); TEM (Technical or engineered material
use); PREP (Preparation); USES (Uses)
(photopolymerizable compn. contg. dye and org. **borate**
photopolymn. initiator for **photoimaging** recording material)

IT 191726-69-9 225107-27-7

RL: CAT (Catalyst use); USES (Uses)

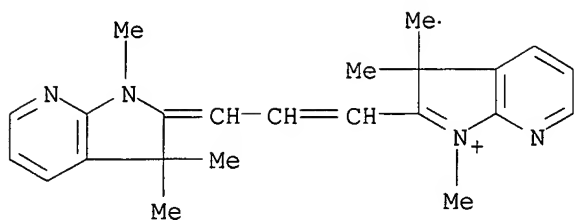
(photopolymn. initiator; photopolymerizable compn. contg. dye and org.
borate photopolymn. initiator for **photoimaging**
recording material)

IT 98570-20-8 446233-06-3 446233-23-4

RL: TEM (Technical or engineered material use); USES (Uses)
(dye; photopolymerizable compn. contg. dye and org. **borate**
photopolymn. initiator for **photoimaging** recording material)

RN 98570-20-8 HCA

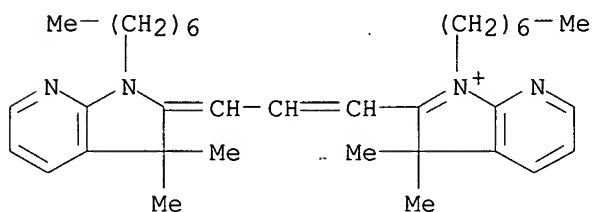
CN 3H-Pyrrolo[2,3-b]pyridinium, 2-[3-(1,3-dihydro-1,3,3-trimethyl-2H-
pyrrolo[2,3-b]pyridin-2-ylidene)-1-propenyl]-1,3,3-trimethyl-, iodide
(9CI) (CA INDEX NAME)



RN 446233-06-3 HCA
 CN 3H-Pyrrolo[2,3-b]pyridinium, 1-heptyl-2-[3-(1-heptyl-1,3-dihydro-3,3-dimethyl-2H-pyrrolo[2,3-b]pyridin-2-ylidene)-1-propenyl]-3,3-dimethyl-, hexafluorophosphate(1-) (9CI) (CA INDEX NAME)

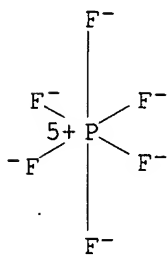
CM 1

CRN 446233-05-2
 CMF C35 H51 N4

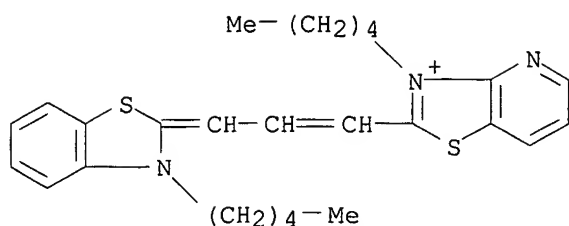


CM 2

CRN 16919-18-9
 CMF F6 P
 CCI CCS



RN 446233-23-4 HCA
 CN Thiazolo[4,5-b]pyridinium, 3-pentyl-2-[3-(3-pentyl-2(3H)-benzothiazolylidene)-1-propenyl]-, iodide (9CI) (CA INDEX NAME)



● I⁻

L52 ANSWER 2 OF 5 HCA COPYRIGHT 2003 ACS on STN
 ACCESSION NUMBER: 132:201003 HCA
 TITLE: New photographic sensitizing dye and silver halide emulsion containing the same for photographic material, heat-developable photographic material, and optical recording medium
 INVENTOR(S): Tanaka, Tatsuo; Kita, Noriyasu; Fukusaka, Kiyoshi; Kagawa, Nobuaki
 PATENT ASSIGNEE(S): Konica Co., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 87 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

2/29/00

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2000063690 ¹	A2	20000229	JP 1998-235688	19980821 <--
PRIORITY APPLN. INFO.:			JP 1998-235688	19980821 <--

OTHER SOURCE(S): MARPAT 132:201003
 GI For diagram(s), see printed CA Issue.
 AB The photog. Ag halide emulsion contains new photog. sensitizing dye represented by I or II (R₁, R₂ = aliph. group; Q = nonmetal atoms for forming 5- to 6-membered heterocycles; A₁, A₂ = atoms for forming methine dye; Y₁, Y₂ = O, S, Se, N, C; X = counter ion; n = no.) and specific tabular Ag halide grains. The photog. material shows excellent photog. properties.
 IC ICM C09B023-00
 ICS G03C001-035; G03C001-12; G03C001-498
 CC 74-2 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
 IT Photographic films
 (heat-developable; new photog. sensitizing dye and silver halide emulsion contg. the same for photog. material, heat-developable photog. material, and optical recording medium)
 IT Optical recording materials
 Photographic emulsions
 Photographic films
 Photographic paper
 (new photog. sensitizing dye and silver halide emulsion contg. the same for photog. material, heat-developable photog. material, and optical recording medium)

IT Photographic sensitizers

(spectral; new photog. sensitizing dye and silver halide emulsion contg. the same for photog. material, heat-developable photog. material, and optical recording medium)

IT 259815-09-3 259815-10-6 259815-11-7 259815-13-9 259815-14-0
259815-17-3 259815-18-4 **259815-19-5** 259815-20-8
 259815-21-9 259815-22-0 259815-24-2 259815-25-3 259815-27-5
 259815-28-6 259815-31-1 259815-33-3 259815-34-4 259815-35-5
 259815-36-6 259815-37-7 259815-38-8 259815-39-9 259815-41-3
 259815-42-4 259815-43-5 259815-44-6 259815-45-7 259815-46-8
 259815-47-9 259815-49-1 259815-50-4 259815-52-6

RL: MOA (Modifier or additive use); USES (Uses)

(new photog. sensitizing dye in silver halide emulsion for photog. material)

IT **100170-12-5P** 259815-12-8P 259815-16-2P 259815-29-7P

RL: MOA (Modifier or additive use); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)

(new photog. sensitizing dye in silver halide emulsion for photog. material)

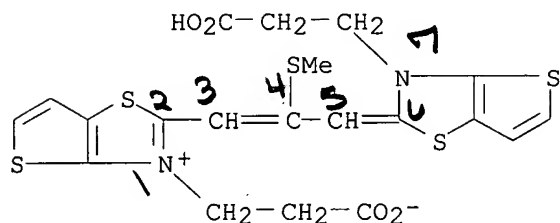
IT **259815-17-3 259815-19-5**

RL: MOA (Modifier or additive use); USES (Uses)

(new photog. sensitizing dye in silver halide emulsion for photog. material)

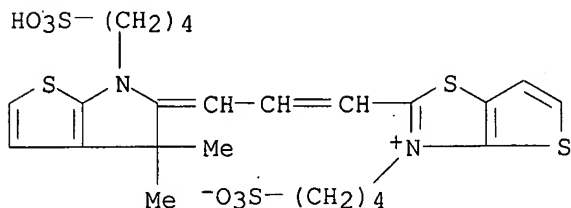
RN 259815-17-3 HCA

CN Thieno[2,3-d]thiazolium, 3-(2-carboxyethyl)-2-[3-[3-(2-carboxyethyl)thieno[2,3-d]thiazol-2(3H)-ylidene]-2-(methylthio)-1-propenyl]-, inner salt (9CI) (CA INDEX NAME)



RN 259815-19-5 HCA

CN Thieno[2,3-d]thiazolium, 2-[3-[4,6-dihydro-4,4-dimethyl-6-(4-sulfobutyl)-5H-thieno[2,3-b]pyrrol-5-ylidene]-1-propenyl]-3-(4-sulfobutyl)-, inner salt (9CI) (CA INDEX NAME)



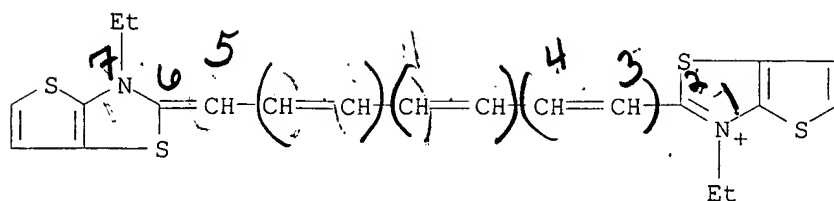
IT **100170-12-5P**

RL: MOA (Modifier or additive use); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)

(new photog. sensitizing dye in silver halide emulsion for photog. material)

RN 100170-12-5 HCA

CN Thieno[2,3-d]thiazolium, 3-ethyl-2-[7-(3-ethylthieno[2,3-d]thiazol-2(3H)-ylidene)-1,3,5-heptatrienyl]-, iodide (9CI) (CA INDEX NAME)



● I⁻

L52 ANSWER 3 OF 5 HCA COPYRIGHT 2003 ACS on STN
 ACCESSION NUMBER: 116:72482 HCA
 TITLE: Cyanine dyes and light-absorbing compositions
 containing the same
 INVENTOR(S): Usagawa, Yasushi; Kagawa, Nobuaki
 PATENT ASSIGNEE(S): Konica Co., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 10 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 03146565	A2	19910621	JP 1989-285351	19891101 <--
JP 2961549	B2	19991012		

PRIORITY APPLN. INFO.: JP 1989-285351 19891101 <--

AB The title dyes, showing strong absorption in red to near-IR region and good soly. for easy coatability, usefull for laser optical recording media, are 3H-pyrrolopyridine pentamethine or heptamethine dyes.

IC ICM C09B023-00
ICS G02B001-04

CC 74-13 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

ST laser recording medium pyrrolopyridine dye; cyanine dye laser recording medium

IT Dyes, cyanine
(for laser optical recording media, manuf. of)

IT Recording materials
(optical, laser, cyanines for)

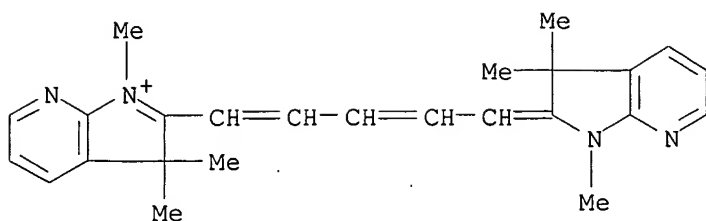
IT 131033-77-7P 131033-79-9P 131033-81-3P 131033-83-5P 131033-84-6P
131033-85-7P 137683-02-4P 137683-03-5P 137705-77-2P
137733-03-0P 137765-28-7P 138626-79-6P

RL: PREP (Preparation)
(laser optical recording media, manuf. of)

IT 137705-77-2P
RL: PREP (Preparation)
(laser optical recording media, manuf. of)

RN 137705-77-2 HCA

CN 3H-Pyrrolo[2,3-b]pyridinium, 2-[5-(1,3-dihydro-1,3,3-trimethyl-2H-pyrrolo[2,3-b]pyridin-2-ylidene)-1,3-pentadienyl]-1,3,3-trimethyl-, iodide (9CI) (CA INDEX NAME)



● I⁻

L52 ANSWER 4 OF 5 HCA COPYRIGHT 2003 ACS on STN

ACCESSION NUMBER: 114:33145 HCA

TITLE: **Photoresist** patterning during semiconductor device fabrication

INVENTOR(S): Endo, Masataka; Sasako, Masaru; Ueno, Atsushi; Nomura, Noboru

PATENT ASSIGNEE(S): Matsushita Electric Industrial Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 17 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 02132448	A2	19900521	JP 1988-255168	19881011 <--
PRIORITY APPLN. INFO.:			JP 1987-256521	19871012 <--
			JP 1987-269662	19871026 <--
			JP 1987-269663	19871026 <--
			JP 1987-288758	19871116 <--
			JP 1988-179175	19880720 <--

AB The title resist patterning is effected by coating a substrate with a pos.-type resist, patternwise exposing, allowing a **dye** to adsorb or react with the exposed area of the resist, and developing to remove the resist from the regions not covered by the adsorbed or reacted **dye**. The pos. resist contains an anion salt and the **dye** used is selected from cyanine azo, carbonium, quinoneimine, methine, quinaline, nitro, nitroso, merocyanine, coumarin, and acrylidine **dyes**.

IC ICM G03F007-38

ICS H01L021-027

CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

Section cross-reference(s): 76

ST patterning pos resist **dye**; photolithog semiconductor device fabrication

IT **Resists**

(photo-, ammonium salt-contg.)

IT **Lithography**

(photo-, pos.-type resistant patterning for)

IT 3065-71-2 13984-17-3 68006-75-7 100834-63-7 130953-48-9
 130953-49-0 130953-50-3 130953-51-4 130953-52-5 130953-53-6
 130953-54-7 130953-55-8 130953-56-9 130977-59-2 131170-18-8
 131170-20-2 131170-22-4 131170-23-5 131170-24-6

131170-25-7 131170-26-8 131184-52-6

RL: USES (Uses)

(dyes, photolithog. with pos. resist using)

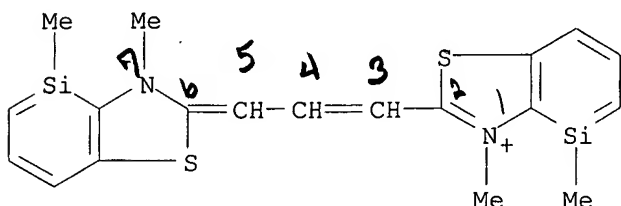
IT 131170-23-5

RL: USES (Uses)

(dyes, photolithog. with pos. resist using)

RN 131170-23-5 HCA

CN Silino[2,3-d]thiazolium, 2-[3-(3,4-dimethylsilino[2,3-d]thiazol-2(3H)-ylidene)-1-propenyl]-3,4-dimethyl- (9CI) (CA INDEX NAME)



L52 ANSWER 5 OF 5 HCA COPYRIGHT 2003 ACS on STN

ACCESSION NUMBER: 107:87038 HCA

TITLE: Silver halide photographic photosensitive material

INVENTOR(S): Saito, Yoichi; Kamitakahara, Atsushi; Usagawa, Yasushi; Yamashita, Kiyoshi

PATENT ASSIGNEE(S): Konishiroku Photo Industry Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 42 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 61277941	A2	19861208	JP 1985-119180	19850601 <--
PRIORITY APPLN. INFO.:			JP 1985-119180	19850601 <--
AB The claimed photog. photosensitive material has a support coated with an electron beam-cured resin layer contg. an inorg. pigment and a layer contg. a telluroazole. The photog. material shows excellent storage stability.				
IC ICM G03C001-34				
ICS G03C001-87				
ICA C07D421-06; C07D517-04; C07D517-06				
ICI C07D421-06, C07D263-00, C07D293-00; C07D421-06, C07D277-00, C07D293-00				
CC 74-2 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)				
Section cross-reference(s): 41				
IT 109673-62-3 109711-31-1				
RL: USES (Uses)				
(electron beam-cured, photog. support coated with)				
IT 97425-69-9 97426-20-5 97426-44-3 102365-43-5 108285-81-0				
108286-34-6 108318-85-0 108410-79-3 108464-91-1 108464-92-2				
108464-93-3 108464-94-4 108464-95-5 108465-24-3 108465-25-4				
108465-26-5 108465-41-4 108465-43-6 108465-44-7 108497-53-6				
108497-54-7 108497-55-8 108497-56-9 108802-00-2 109057-17-2				
109735-49-1				
RL: TEM (Technical or engineered material use); USES (Uses)				
(photog. sensitizer)				
IT 109057-17-2				

RL: TEM (Technical or engineered material use); USES (Uses)
(photog. sensitizer)

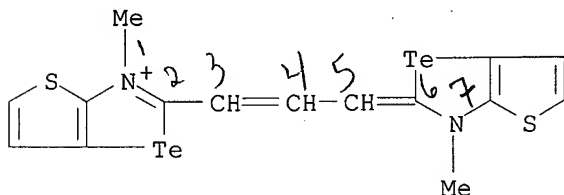
RN 109057-17-2 HCA

CN Thieno[2,3-d]tellurazolium, 3-methyl-2-[3-(3-methylthieno[2,3-d]tellurazol-2(3H)-ylidene)-1-propenyl]-, salt with trifluoromethanesulfonic acid (1:1)
(9CI) (CA INDEX NAME)

CM 1

CRN 108497-58-1

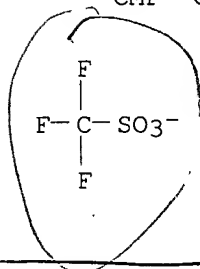
CMF C15 H13 N2 S2 Te2



CM 2

CRN 37181-39-8

CMF C F3 O3 S



=> d L53 1-18 cbib abs hitind hitstr

L53 ANSWER 1 OF 18 HCA COPYRIGHT 2003 ACS on STN

136:296159 Modified carbocyanine **dyes** and their conjugates and their uses. Leung, Wai-Yee; Cheung, Ching-Ying; Yue, Stephen (Molecular Probes, Inc., USA). PCT Int. Appl. WO 2002026891 A1 20020404, 107 pp. DESIGNATED STATES: W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM; RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, CY, DE, DK, ES, FI, FR, GA, GB, GR, IE, IT, LU, MC, ML, MR, NE, NL, PT, SE, SN, TD, TG, TR. (English). CODEN: PIXXD2. APPLICATION: WO 2001-US30404 20010928. PRIORITY: US 2000-PV236637 20000929; US 2001-PV276870 20010316.

AB Chem. reactive carbocyanine **dyes** incorporating an indolium ring moiety that is substituted at the 3-position by a reactive group or by a conjugated substance are disclosed. Conjugation through this position results in spectral properties that are uniformly superior to those of conjugates of spectrally similar **dyes** wherein attachment is at a different position. The invention includes deriv. compds. having one or more benzo nitrogens. The fluorescent **dyes** have a reduced tendency to self-assoc. and may be used for staining biol. samples.

IC ICM C09B023-02

ICS G01N033-58; G01N033-533; C07D209-18; C12Q001-68
CC 41-11 (Dyes, Organic Pigments, Fluorescent Brighteners, and Photographic Sensitizers)
Section cross-reference(s): 9, 27
ST fluorescent indolium carbocyanine **dye** prodn biol staining
IT Phycoerythrins
RL: CPS (Chemical process); PEP (Physical, engineering or chemical process); PROC (Process)
(R-phycoerythrins; prodn. of indolium fluorescent cyanine **dyes** for labeling of)
IT Fluorescent **dyes**
(cyanine; prodn. of indolium fluorescent cyanine **dyes** and their biol. use)
IT Cyanine **dyes**
(fluorescent; prodn. of indolium fluorescent cyanine **dyes** and their biol. use)
IT Fluorescent indicators
Stains, biological
(prodn. of indolium fluorescent cyanine **dyes** and their biol. use)
IT Liposomes
Microspheres
(prodn. of indolium fluorescent cyanine **dyes** for labeling of)
IT Proteins
RL: BSU (Biological study, unclassified); CPS (Chemical process); PEP (Physical, engineering or chemical process); BIOL (Biological study); PROC (Process)
(prodn. of indolium fluorescent cyanine **dyes** for labeling of)
IT DNA
Nucleic acids
Nucleotides, processes
Oligonucleotides
RNA
RL: CPS (Chemical process); PEP (Physical, engineering or chemical process); PROC (Process)
(prodn. of indolium fluorescent cyanine **dyes** for labeling of)
IT 407627-63-8P 407627-69-4P 407627-86-5P 407627-90-1P 407628-16-4P
407628-20-0P 407628-25-5P
RL: BUU (Biological use, unclassified); IMF (Industrial manufacture); BIOL (Biological study); PREP (Preparation); USES (Uses)
(**dye**; prodn. of indolium fluorescent cyanine **dyes** and their biol. use)
IT 407627-61-6P **407628-18-6P**
RL: BUU (Biological use, unclassified); IMF (Industrial manufacture); RCT (Reactant); BIOL (Biological study); PREP (Preparation); RACT (Reactant or reagent); USES (Uses)
(**dye**; prodn. of indolium fluorescent cyanine **dyes** and their biol. use)
IT 77992-44-0P, 5-Bromo-2-hydrazinopyridine 174703-04-9P 331777-85-6P
407627-51-4P 407627-52-5P 407627-53-6P 407627-54-7P 407627-55-8P
407627-56-9P 407627-57-0P 407627-59-2P 407627-67-2P 407627-73-0P
407627-82-1P 407627-84-3P 407627-88-7P 407627-93-4P 407627-95-6P
407627-96-7P 407627-97-8P 407627-98-9P 407627-99-0P 407628-03-9P
407628-06-2P 407628-28-8P 407628-31-3P
RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
(intermediate; prodn. of indolium fluorescent cyanine **dyes** and their biol. use)
IT 407627-65-0P 407627-71-8P 407627-75-2P 407627-77-4P 407627-79-6P
407627-81-0P 407627-92-3P 407627-94-5P 407628-11-9P

407628-14-2P 407628-23-3P 407628-29-9P

407628-32-4P 407628-33-5P 407628-34-6P 407628-35-7P

RL: IMF (Industrial manufacture); PREP (Preparation)

(prodn. of indolium fluorescent cyanine **dyes** and their biol. use)**IT 407628-24-4P**

RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)

(prodn. of indolium fluorescent cyanine **dyes** and their biol. use)**IT 9031-11-2, .beta.-Galactosidase**

RL: CPS (Chemical process); PEP (Physical, engineering or chemical process); PROC (Process)

(prodn. of indolium fluorescent cyanine **dyes** for labeling of)

IT 80-48-8, Methyl p-toluenesulfonate 98-71-5, 4-Hydrazinobenzenesulfonic acid 121-44-8, Triethylamine, reactions 302-01-2, Hydrazine, reactions 563-80-4, 3-Methyl-2-butanone 609-14-3, Ethyl 2-methylacetoacetate 622-15-1, N,N'-Diphenylformamidine 624-28-2, 2,5-Dibromopyridine 1120-71-4, Propane sultone 1501-26-4 4224-70-8, 6-Bromohexanoic acid 4930-98-7, 2-Hydrazinopyridine 6761-89-3, 2-Methyl-6-benzothiazolesulfonic acid 10299-70-4 25542-62-5, Ethyl 6-bromohexanoate 51143-32-9, Malonaldehyde dianil hydrochloride 56405-37-9 82551-26-6 105832-38-0 125923-10-6 132557-71-2 146855-63-2 176978-81-7 252358-62-6 287188-58-3 407628-00-6 407628-08-4 407628-09-5 407628-12-0 407628-22-2 407628-27-7 407628-30-2 407628-36-8

RL: RCT (Reactant); RACT (Reactant or reagent)

(starting material; prodn. of indolium fluorescent cyanine **dyes** and their biol. use)**IT 407628-18-6P**

RL: BUU (Biological use, unclassified); IMF (Industrial manufacture); RCT (Reactant); BIOL (Biological study); PREP (Preparation); RACT (Reactant or reagent); USES (Uses)

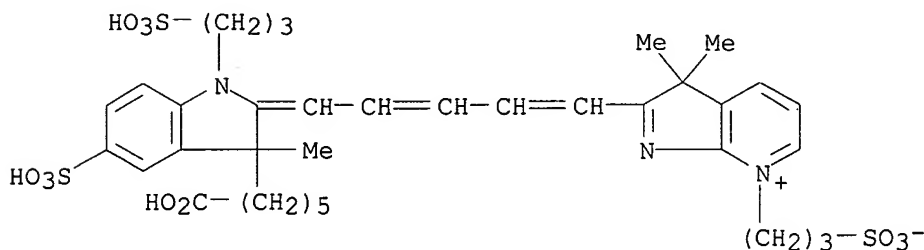
(dye; prodn. of indolium fluorescent cyanine **dyes** and their biol. use)**RN 407628-18-6 HCA**

CN 3H-Pyrrolo[2,3-b]pyridinium, 2-[5-[3-(5-carboxypentyl)-1,3-dihydro-3-methyl-5-sulfo-1-(3-sulfopropyl)-2H-indol-2-ylidene]-1,3-pentadienyl]-3,3-dimethyl-7-(3-sulfopropyl)-, inner salt, compd. with N,N-diethylethanamine (1:2) (9CI) (CA INDEX NAME)

CM 1

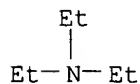
CRN 407628-17-5

CMF C35 H45 N3 O11 S3



CM 2

CRN 121-44-8
CMF C6 H15 N



IT 407628-14-2P 407628-23-3P 407628-29-9P

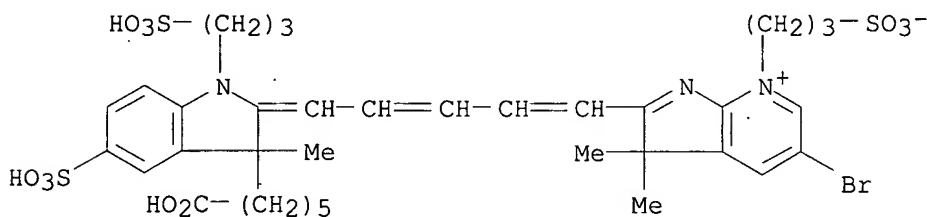
RL: IMF (Industrial manufacture); PREP (Preparation)
(prodn. of indolium fluorescent cyanine dyes and their biol.
use)

RN 407628-14-2 HCA

CN 3H-Pyrrolo[2,3-b]pyridinium, 5-bromo-2-[5-[3-(5-carboxypentyl)-1,3-dihydro-3-methyl-5-sulfo-1-(3-sulfopropyl)-2H-indol-2-ylidene]-1,3-pentadienyl]-3,3-dimethyl-7-(3-sulfopropyl)-, inner salt, compd. with
N,N-diethylethanamine (1:2) (9CI) (CA INDEX NAME)

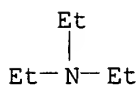
CM 1

CRN 407628-13-1
CMF C35 H44 Br N3 O11 S3



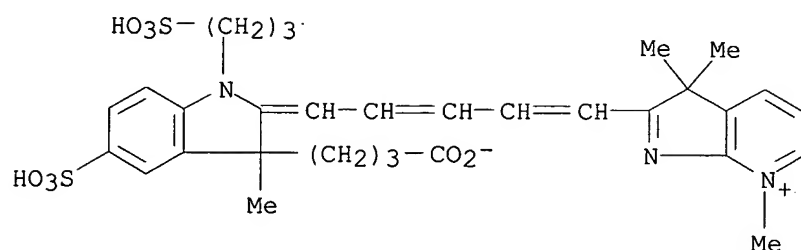
CM 2

CRN 121-44-8
CMF C6 H15 N



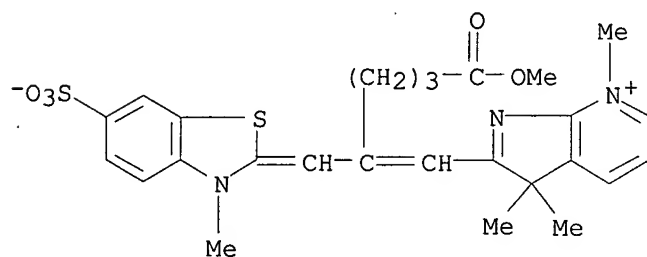
RN 407628-23-3 HCA

CN 3H-Pyrrolo[2,3-b]pyridinium, 2-[5-[3-(3-carboxypropyl)-1,3-dihydro-3-methyl-5-sulfo-1-(3-sulfopropyl)-2H-indol-2-ylidene]-1,3-pentadienyl]-3,3,7-trimethyl-, inner salt, monopotassium salt (9CI) (CA INDEX NAME)



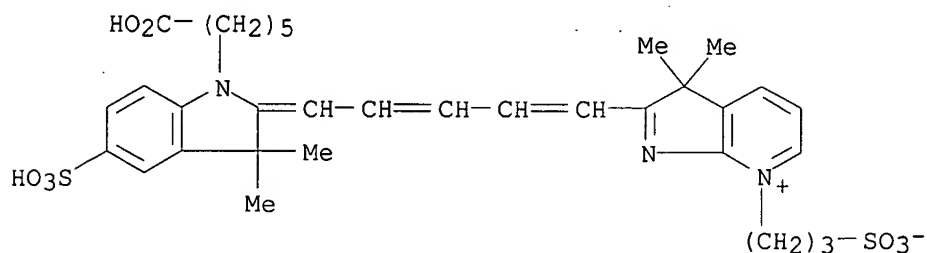
● K

RN 407628-29-9 HCA
 CN 3H-Pyrrolo[2,3-b]pyridinium, 2-[6-methoxy-2-[(3-methyl-6-sulfo-2(3H)-benzothiazolylidene)methyl]-6-oxo-1-hexenyl]-3,3,7-trimethyl-, inner salt (9CI) (CA INDEX NAME)



IT 407628-24-4P
 RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
 (prodn. of indolium fluorescent cyanine **dyes** and their biol. use)

RN 407628-24-4 HCA
 CN 3H-Pyrrolo[2,3-b]pyridinium, 2-[5-[1-(5-carboxypentyl)-1,3-dihydro-3,3-dimethyl-5-sulfo-2H-indol-2-ylidene]-1,3-pentadienyl]-3,3-dimethyl-7-(3-sulfopropyl)-, inner salt, monopotassium salt (9CI) (CA INDEX NAME)

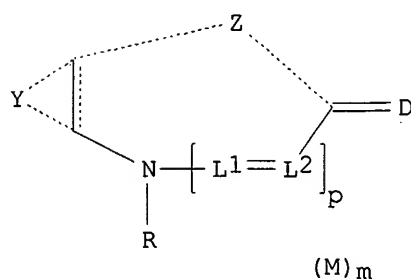


● K.

L53 ANSWER 2 OF 18 HCA COPYRIGHT 2003 ACS on STN
 136:142540 Photographic film containing specific methine **dye**.

Nakamura, Akio; Hioki, Takanori; Ozeki, Katsuhisa; Hanaki, Naoyuki (Fuji Photo Film Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 2002023295 A2 20020123, 109 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 2001-118281 20010417. PRIORITY: JP 2000-124612 20000425; JP 2000-132357 20000501.

GI



I

- AB The invention relates to photog. films contg. methine **dye** I (Y = 5-6 membered unsat. heterocyclic ring residue; Z = 5-6 membered unsat. heterocyclic ring residue, connecting group; R = alkyl, aryl, heterocyclics; D = **dye** functional group; L1-2 = methine; p = 0,1; M = counter ion; m = no. to neutralize charge in compd.). The photog. film provides the high sensitivity and little residual **color** after the process without detracting the pressure durability.
- IC ICM G03C001-12
ICS G03C001-14; G03C001-16; G03C001-18
- CC 74-2 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
Section cross-reference(s): 41
- ST photog film methine **dye**
- IT Photographic films
Photographic sensitizers
(photog. film contg. specific methine **dye**)
- IT 79-08-3, Bromoacetic acid 87-90-1, Trichlorocyanuric acid 108-24-7, Acetic anhydride 121-44-8, Triethylamine, reactions 1120-71-4, 1,3-Propane sultone 7726-95-6, Bromine, reactions 7803-49-8, Hydroxylamine, reactions 59504-75-5 63148-89-0 104992-12-3 111010-36-7 112161-83-8, Thieno[2,3-d]thiazole, 5-bromo-2-methyl- 150195-43-0 391879-36-0 391879-45-1
RL: RCT (Reactant); RACT (Reactant or reagent)
(photog. film contg. specific methine **dye**)
- IT 637-81-0P, Ethyl azidoacetate 5556-07-0P, 2-Acetyl-3-hydroxythiophene 39238-07-8P, 4-(Chloromethyl)-2-methylthiazole 75103-41-2P 112499-96-4P, Thieno[2,3-d]oxazole, 2-methyl- 391879-39-3P 391879-41-7P 391879-43-9P 391879-48-4P 391879-50-8P 391880-23-2P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(photog. film contg. specific methine **dye**)
- IT 364366-84-7P 364366-85-8P 364366-86-9P 364366-89-2P 364366-91-6P
364366-96-1P 391879-53-1P 391879-56-4P 391879-58-6P 391879-60-0P
391879-62-2P 391879-63-3P 391879-65-5P 391879-68-8P 391879-71-3P

391879-72-4P 391879-74-6P 391879-76-8P 391879-78-0P 391879-80-4P
 391879-81-5P 391879-82-6P 391879-83-7P 391879-84-8P
 391879-85-9P 391879-86-0P 391879-87-1P 391879-88-2P
 391879-89-3P 391879-90-6P 391879-91-7P
 391879-92-8P 391879-93-9P 391879-95-1P
 391879-96-2P 391879-97-3P 391879-98-4P
 391880-00-5P 391880-02-7P 391880-03-8P 391880-04-9P 391880-06-1P
 391880-07-2P 391880-08-3P 391880-09-4P 391880-10-7P
 391880-12-9P 391880-14-1P 391880-16-3P 391880-18-5P 391880-21-0P
 391880-26-5P

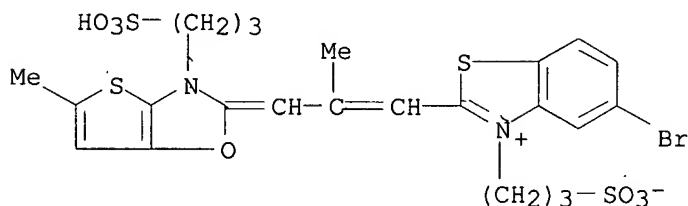
RL: SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
 (photog. film contg. specific methine dye)

IT 391879-82-6P 391879-88-2P 391879-89-3P
 391879-90-6P 391879-91-7P 391879-92-8P
 391879-93-9P 391879-95-1P 391879-96-2P
 391879-97-3P 391879-98-4P 391880-08-3P

RL: SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
 (photog. film contg. specific methine dye)

RN 391879-82-6 HCA

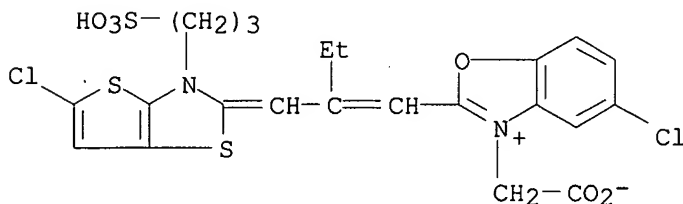
CN Benzothiazolium, 5-bromo-2-[2-methyl-3-[5-methyl-3-(3-sulfopropyl)thieno[2,3-d]oxazol-2(3H)-ylidene]-1-propenyl]-3-(3-sulfopropyl)-, inner salt, potassium salt (9CI) (CA INDEX NAME)



● K

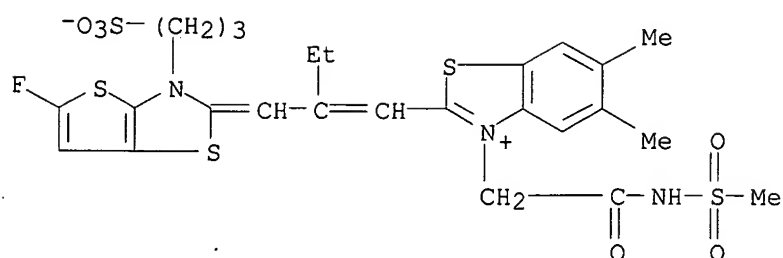
RN 391879-88-2 HCA

CN Benzoxazolium, 3-(carboxymethyl)-5-chloro-2-[2-[[5-chloro-3-(3-sulfopropyl)thieno[2,3-d]thiazol-2(3H)-ylidene]methyl]-1-butenyl]-, inner salt (9CI) (CA INDEX NAME)



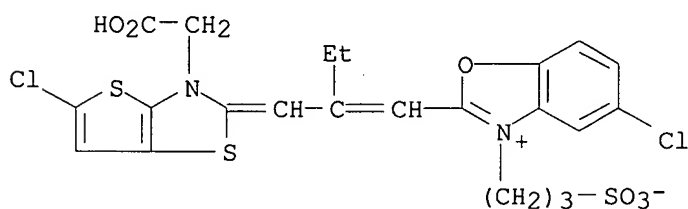
RN 391879-89-3 HCA

CN Benzothiazolium, 2-[2-[[5-fluoro-3-(3-sulfopropyl)thieno[2,3-d]thiazol-2(3H)-ylidene]methyl]-1-butenyl]-5,6-dimethyl-3-[2-[(methylsulfonyl)amino]-2-oxoethyl]-, inner salt (9CI) (CA INDEX NAME)



RN 391879-90-6 HCA

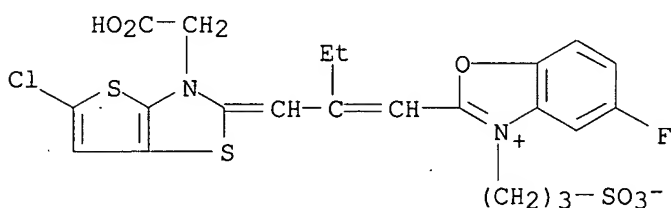
CN Benzoxazolium, 2-[2-[[3-(carboxymethyl)-5-chlorothieno[2,3-d]thiazol-2(3H)-ylidene]methyl]-1-butenyl]-5-chloro-3-(3-sulfopropyl)-, inner salt, potassium salt (9CI) (CA INDEX NAME)



● K

RN 391879-91-7 HCA

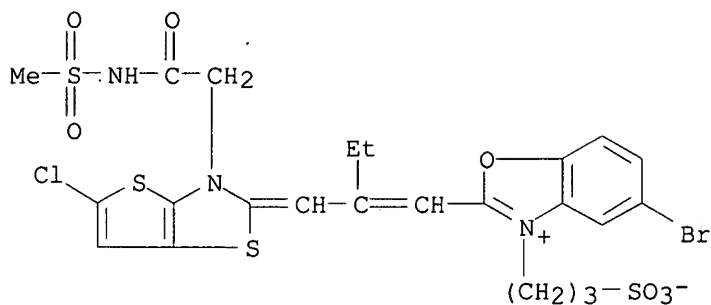
CN Benzoxazolium, 2-[2-[[3-(carboxymethyl)-5-chlorothieno[2,3-d]thiazol-2(3H)-ylidene]methyl]-1-butenyl]-5-fluoro-3-(3-sulfopropyl)-, inner salt, potassium salt (9CI) (CA INDEX NAME)



● K

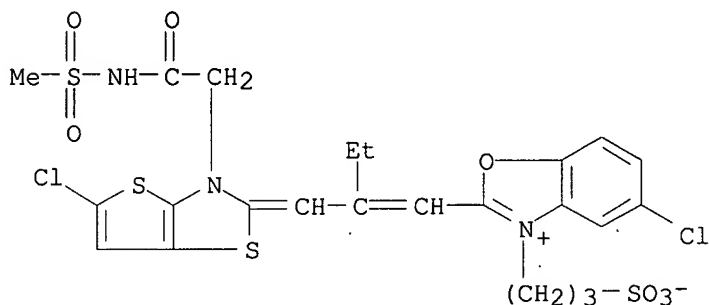
RN 391879-92-8 HCA

CN Benzoxazolium, 5-bromo-2-[2-[[5-chloro-3-[2-[(methylsulfonyl)amino]-2-oxoethyl]thieno[2,3-d]thiazol-2(3H)-ylidene]methyl]-1-butenyl]-3-(3-sulfopropyl)-, inner salt (9CI) (CA INDEX NAME)



RN 391879-93-9 HCA

CN Benzoxazolium, 5-chloro-2-[2-[[5-chloro-3-[2-[(methylsulfonyl)amino]-2-oxoethyl]thieno[2,3-d]thiazol-2(3H)-ylidene]methyl]-1-butenyl]-3-(3-sulfopropyl)-, inner salt (9CI) (CA INDEX NAME)



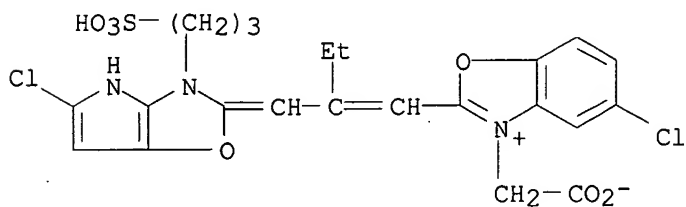
RN 391879-95-1 HCA

CN Benzoxazolium, 3-(carboxymethyl)-5-chloro-2-[2-[[5-chloro-3,4-dihydro-3-(3-sulfopropyl)-2H-pyrrolo[2,3-d]oxazol-2-ylidene]methyl]-1-butenyl]-, inner salt, compd. with N,N-diethylethanamine (1:1) (9CI) (CA INDEX NAME)

CM 1

CRN 391879-94-0

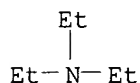
CMF C22 H21 Cl2 N3 O7 S



CM 2

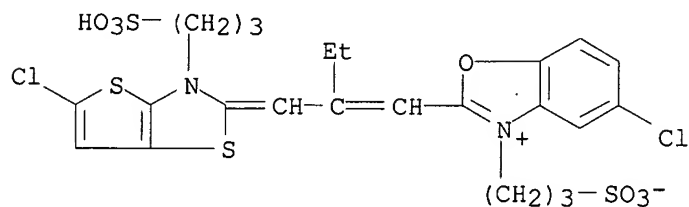
CRN 121-44-8

CMF C6 H15 N



RN 391879-96-2 HCA

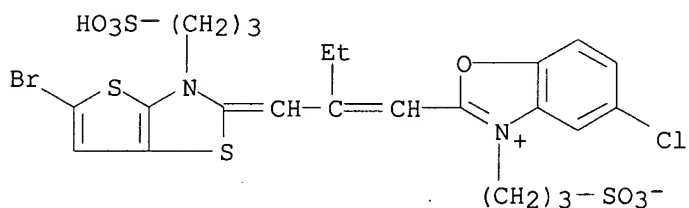
CN Benzoxazolium, 5-chloro-2-[2-[[5-chloro-3-(3-sulfopropyl)thieno[2,3-d]thiazol-2(3H)-ylidene]methyl]-1-butenyl]-3-(3-sulfopropyl)-, inner salt, potassium salt (9CI) (CA INDEX NAME)



● K

RN 391879-97-3 HCA

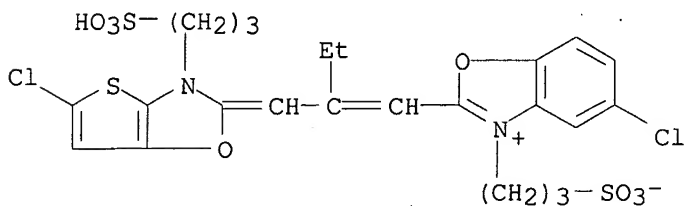
CN Benzoxazolium, 2-[2-[[5-bromo-3-(3-sulfopropyl)thieno[2,3-d]thiazol-2(3H)-ylidene]methyl]-1-butenyl]-5-chloro-3-(3-sulfopropyl)-, inner salt, potassium salt (9CI) (CA INDEX NAME)



● K

RN 391879-98-4 HCA

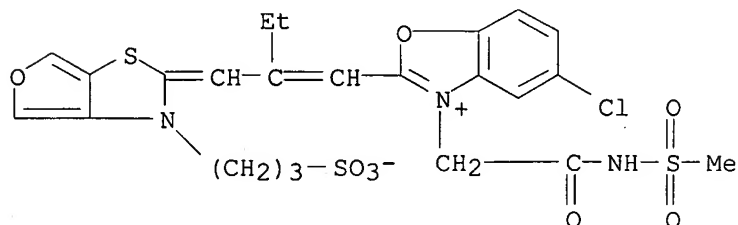
CN Benzoxazolium, 5-chloro-2-[2-[[5-chloro-3-(3-sulfopropyl)thieno[2,3-d]oxazol-2(3H)-ylidene]methyl]-1-butenyl]-3-(3-sulfopropyl)-, inner salt, sodium salt (9CI) (CA INDEX NAME)



Na

RN 391880-08-3 HCA

CN Benzoxazolium, 5-chloro-3-[2-[(methylsulfonyl)amino]-2-oxoethyl]-2-[2-[[3-(3-sulfopropyl)furo[3,4-d]thiazol-2(3H)-ylidene]methyl]-1-butenyl]-, inner salt (9CI) (CA INDEX NAME)

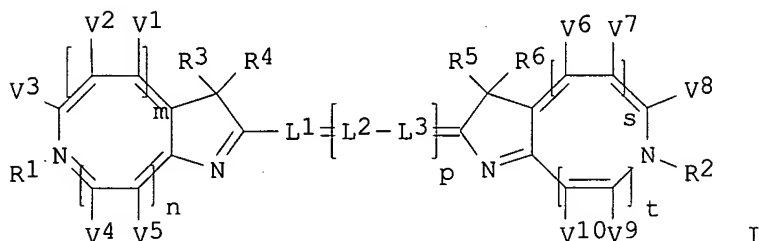


*fluorescent
probes
6/13/01*

L53 ANSWER 3 OF 18 HCA COPYRIGHT 2003 ACS on STN

135:43132 Synthesis of fluorescent substances and application for obtaining fluorescence probes and detection of PCR products. Inomata, Hiroko; Shinoki, Hiroshi; Kojima, Masayoshi; Sudo, Yukio; Nishigaki, Junji; Seshimoto, Osamu (Fuji Photo Film Co., Ltd., Japan). Eur. Pat. Appl. EP 1106621 A2 20010613, 41 pp. DESIGNATED STATES: R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO. (English). CODEN: EPXXDW. APPLICATION: EP 2000-126447 20001206. PRIORITY: JP 1999-347886 19991207; JP 1999-348015 19991207.

GI



AB The present invention provides a fluorescent substance which is represented by a formula: A-B-C wherein A is a residue of natural or synthetic nucleotide, oligonucleotide, polynucleotide, or deriv. thereof, and binds to B at a base moiety in said residue, or A is a residue of avidin or streptavidin; B is a divalent linking group or a single bond; and C is a monovalent group derived from a general formula (I) and binds to B at a reactive group present in R1 or R2; wherein R1 and R2 each independently represent an alkyl group that may be substituted with a reactive group capable of covalently bonding to A-B-; R3, R4, R5, and R6 each independently represent an alkyl group, and R3 and R4, and/or R5 and R6 may bind to each other to form a satd. carbon-ring together with a carbon atom(s) to which they bind; V1, V2, V3, V4, V5, V6, V7, V8, V9 and V10 each independently represent a hydrogen atom or a monovalent substituent, and two adjacent groups thereof may bind to form a ring; L1, L2, and L3 represent a substituted or unsubstituted methine group; each of m, n, s, and t represents 0 or 1, provided that m & n = 1 and s & t = 1; p represents 1, 2, or 3; M represents a counter ion; and q represents a no. required to neutralize the charge of a mol. The fluorescent substance of

the present invention is useful as a labeling substance for nucleic acids, or as a reagent for analyzing biol. components such as nucleic acids, proteins or sugars. Thus fluorescent **dyes** were synthesized and conjugated to dUTP; the conjugate was used for transcription to obtain a fluorescence-labeled probe. In another application **dyes** are conjugated to streptavidin for the detection of biotin-labeled PCR products.

IC ICM C07H019-06

ICS C07H019-16; C07H021-00; C12O001-68; G01N033-53

CC 9-14 (Biochemical Methods)

Section cross-reference(s): 3

IT	331777-44-7P	331777-45-8P	344454-15-5P	344454-18-8P	344454-19-9P
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344454-22-4P 344454-26-8P 344454-30-4P 344454-32-6P

344454-34-8P 344454-35-9P 344454-37-1P 344454-38-2P 344454-40-6P

344454-41-7P 344454-42-8P 344454-43-9P 344454-44-0P

344454-47-3P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(synthesis of fluorescent substances and application for obtaining fluorescence probes and detection of PCR products)

IT 344454-15-5DP, conjugate with streptavidin 344454-17-7P 344454-20-2P

344454-21-3P 344454-22-4DP, conjugate with streptavidin 344454-23-5P

344454-24-6P 344454-25-7P 344454-26-8DP, conjugate with

streptavidin 344454-27-9P **344454-29-1P** 344454-33-7P

344454-48-4P

RL: SPN (Synthetic preparation); PREP (Preparation)

(synthesis of fluorescent substances and application for obtaining fluorescence probes and detection of PCR products)

IT 344454-26-8P 344454-42-8P 344454-44-0P

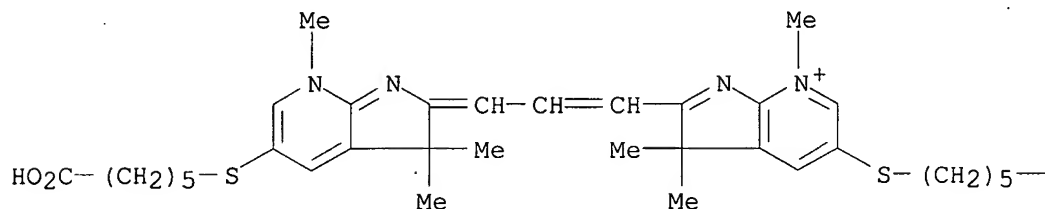
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(synthesis of fluorescent substances and application for obtaining fluorescence probes and detection of PCR products)

RN 344454-26-8 HCA

CN 3H-Pyrrolo[2,3-b]pyridinium, 5-[(5-carboxypentyl)thio]-2-[3-[5-[(5-carboxypentyl)thio]-3,7-dihydro-3,3,7-trimethyl-2H-pyrrolo[2,3-b]pyridin-2-ylidene]-1-propenyl]-3,3,7-trimethyl-, inner salt, sodium salt (9CI) (CA INDEX NAME)

PAGE 1-A



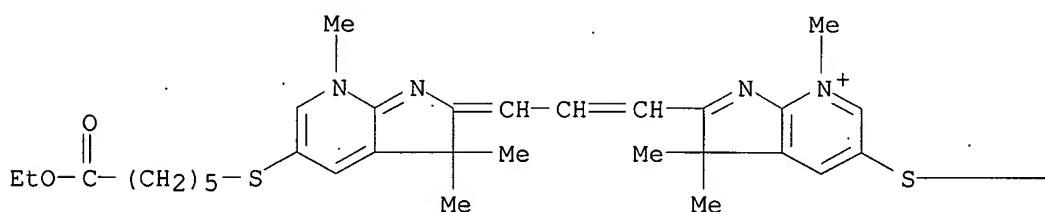
● Na

PAGE 1-B

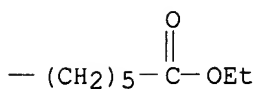
—CO₂⁻

RN 344454-42-8 HCA
 CN 3H-Pyrrolo[2,3-b]pyridinium, 5-[(6-ethoxy-6-oxohexyl)thio]-2-[3-[5-[(6-ethoxy-6-oxohexyl)thio]-3,7-dihydro-3,3,7-trimethyl-2H-pyrrolo[2,3-b]pyridin-2-ylidene]-1-propenyl]-3,3,7-trimethyl-, iodide (9CI) (CA INDEX NAME)

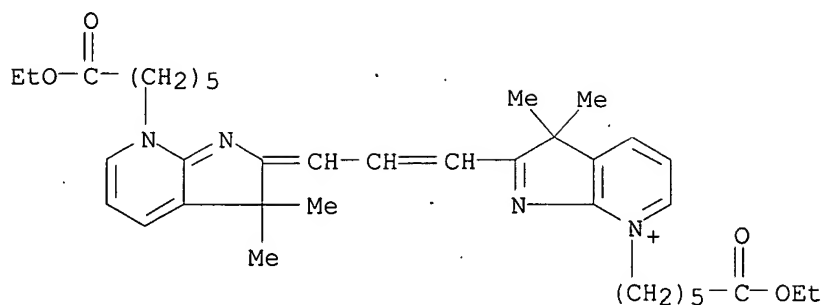
PAGE 1-A

● I⁻

PAGE 1-B

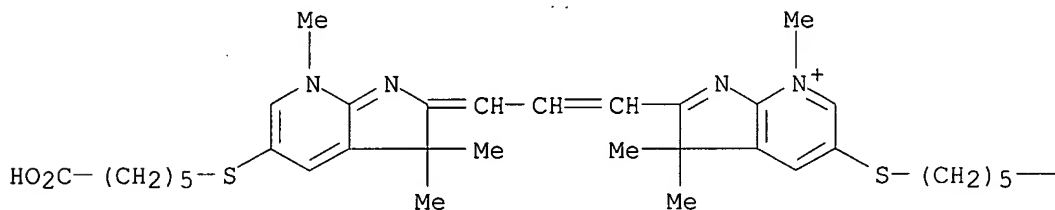


RN 344454-44-0 HCA
 CN 3H-Pyrrolo[2,3-b]pyridinium, 7-(6-ethoxy-6-oxohexyl)-2-[3-[7-(6-ethoxy-6-oxohexyl)-3,7-dihydro-3,3-dimethyl-2H-pyrrolo[2,3-b]pyridin-2-ylidene]-1-propenyl]-3,3-dimethyl-, bromide (9CI) (CA INDEX NAME)



IT 344454-26-8DP, conjugate with streptavidin 344454-29-1P
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (synthesis of fluorescent substances and application for obtaining
 fluorescence probes and detection of PCR products)
 RN 344454-26-8 HCA
 CN 3H-Pyrrolo[2,3-b]pyridinium, 5-[(5-carboxypentyl)thio]-2-[3-[5-[(5-
 carboxypentyl)thio]-3,7-dihydro-3,3,7-trimethyl-2H-pyrrolo[2,3-b]pyridin-2-
 ylidene]-1-propenyl]-3,3,7-trimethyl-, inner salt, sodium salt (9CI) (CA
 INDEX NAME)

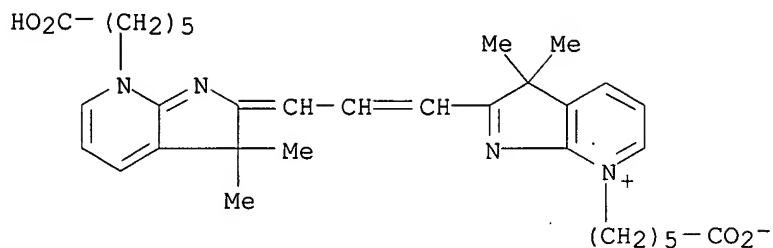
PAGE 1-A



PAGE 1-B

—CO₂⁻

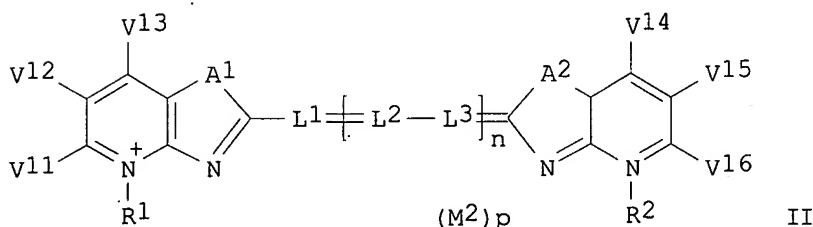
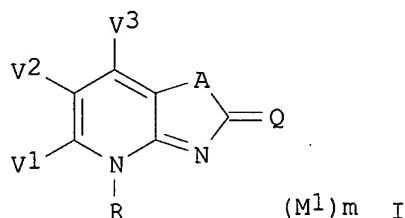
RN 344454-29-1 HCA
 CN 3H-Pyrrolo[2,3-b]pyridinium, 7-(5-carboxypentyl)-2-[3-[7-(5-carboxypentyl)-
 3,7-dihydro-3,3-dimethyl-2H-pyrrolo[2,3-b]pyridin-2-ylidene]-1-propenyl]-
 3,3-dimethyl-, inner salt, sodium salt (9CI) (CA INDEX NAME)



L53 ANSWER 4 OF 18 HCA COPYRIGHT 2003 ACS on STN

134:267731 Water-soluble azamethine compounds and fluorescent labeling agents containing them. Nishigaki, Junji (Fuji Photo Film Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 2001089482 A2 20010403, 14 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1999-270957 19990924.

GI



AB Title compds. I or II [R, R1, R2 = (un)substituted alkyl; Q = arom. ring-substituted (poly)methine; L1-L3 = (un)substituted CH; A, A1, A2 = O, S; V1-V3, V11-V16 = H, substituent; M1, M2 = counterion; n = 0-3], useful for **dyes**, light absorbers, (electro)photog. sensitizers, diagnostic markers, fluorescent labeling agents, etc. (no data), are claimed. Thus, 2-amino-3-hydroxypyridine was cyclized with MeC(OEt)₃, methylated, and condensed with HC(OEt)₃ to give II (R1 = R2 = Me, L1-L3 = CH, A1 = A2 = O, V11-V16 = H, M2 = I⁻, n = 1, p = 1), which showed excellent soly. and no aggregation in H₂O and aq. NaCl soln.

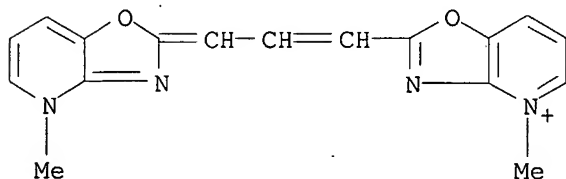
IC ICM C07D498-04

ICS C07D513-04; C07D519-00; G01N033-533; G03C001-14

CC 41-6 (Dyes, Organic Pigments, Fluorescent Brighteners, and Photographic Sensitizers)

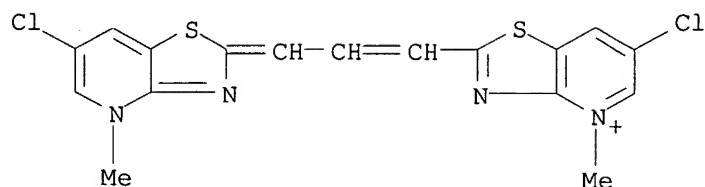
Section cross-reference(s): 9

- ST azamethine **dye** water soluble prepn; fluorescent labeling agent
 azamethine **dye** prepn
- IT Diagnosis
 (agents; prepn. of water-sol. azamethine **dyes** for)
- IT Cyanine **dyes**
 (prepn. of water-sol. azamethine **dyes**)
- IT Electrophotographic sensitizers
 Fluorescent indicators
 Photographic sensitizers
 (prepn. of water-sol. azamethine **dyes** for)
- IT **331815-31-7P 331815-34-0P 331815-38-4P 331815-60-2P**
 RL: PRP (Properties); SPN (Synthetic preparation); TEM (Technical or
 engineered material use); THU (Therapeutic use); BIOL (Biological study);
 PREP (Preparation); USES (Uses)
 (prepn. of water-sol. azamethine **dyes**)
- IT 331815-40-8 **331815-42-0** 331815-44-2 331815-46-4
 331815-48-6 **331815-49-7** 331815-50-0 331815-52-2
 331815-54-4 **331815-56-6** 331815-57-7 **331815-59-9**
 RL: PRP (Properties); TEM (Technical or engineered material use); THU
 (Therapeutic use); BIOL (Biological study); USES (Uses)
 (prepn. of water-sol. azamethine **dyes**)
- IT 78-39-7, Triethyl orthoacetate 122-51-0, Triethyl orthoformate
 4214-74-8, 2-Amino-3,5-dichloropyridine 14620-72-5, Dimethyl adipimidate
 dihydrochloride 16867-03-1, 2-Amino-3-hydroxypyridine 58537-94-3,
 Dimethyl pimelimidate dihydrochloride
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (prepn. of water-sol. azamethine **dyes**)
- IT 63763-91-7P 86467-39-2P 197087-20-0P 331815-30-6P 331815-32-8P
 331815-35-1P 331815-36-2P 331815-37-3P
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT
 (Reactant or reagent)
 (prepn. of water-sol. azamethine **dyes**)
- IT **331815-31-7P 331815-38-4P**
 RL: PRP (Properties); SPN (Synthetic preparation); TEM (Technical or
 engineered material use); THU (Therapeutic use); BIOL (Biological study);
 PREP (Preparation); USES (Uses)
 (prepn. of water-sol. azamethine **dyes**)
- RN 331815-31-7 HCA
- CN Oxazolo[4,5-b]pyridinium, 4-methyl-2-[3-(4-methyloxazolo[4,5-b]pyridin-
 2(4H)-ylidene)-1-propenyl]-, iodide (9CI) (CA INDEX NAME)



● I⁻

- RN 331815-38-4 HCA
- CN Thiazolo[4,5-b]pyridinium, 6-chloro-2-[3-(6-chloro-4-methylthiazolo[4,5-
 b]pyridin-2(4H)-ylidene)-1-propenyl]-4-methyl-, iodide (9CI) (CA INDEX
 NAME)



● I⁻

IT 331815-42-0 331815-49-7 331815-56-6
331815-59-9

RL: PRP (Properties); TEM (Technical or engineered material use); THU
(Therapeutic use); BIOL (Biological study); USES (Uses)
(prepn. of water-sol. azamethine dyes)

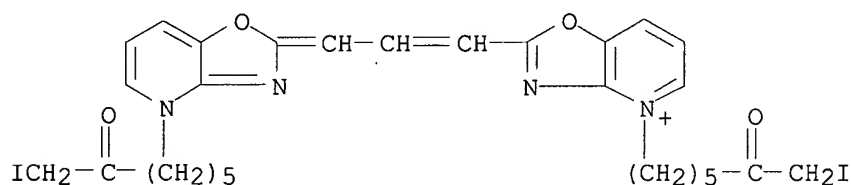
RN 331815-42-0 HCA

CN Oxazolo[4,5-b]pyridinium, 4-(7-iodo-6-oxoheptyl)-2-[3-[4-(7-iodo-6-oxoheptyl)oxazolo[4,5-b]pyridin-2(4H)-ylidene]-1-propenyl]-, hexafluorophosphate(1-) (9CI) (CA INDEX NAME)

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CRN 331815-41-9

CMF C29 H33 I2 N4 O4

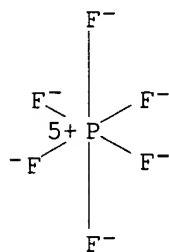


CM 2

CRN 16919-18-9

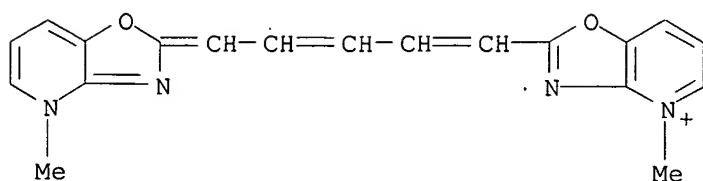
CMF F6 P

CCI CCS



RN 331815-49-7 HCA

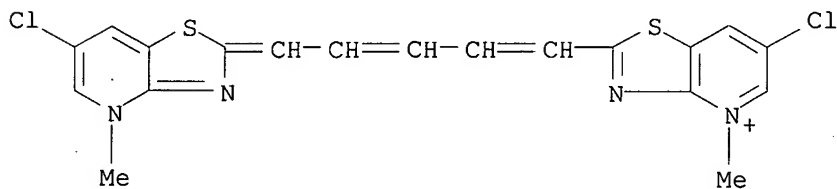
CN Oxazolo[4,5-b]pyridinium, 4-methyl-2-[5-(4-methyloxazolo[4,5-b]pyridin-2(4H)-ylidene)-1,3-pentadienyl]-, iodide (9CI) (CA INDEX NAME)



RN 331815-56-6 HCA
 CN Thiazolo[4,5-b]pyridinium, 6-chloro-2-[5-(6-chloro-4-methylthiazolo[4,5-b]pyridin-2(4H)-ylidene)-1,3-pentadienyl]-4-methyl-, perchlorate (9CI)
 (CA INDEX NAME)

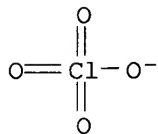
CM 1

CRN 331815-55-5
 CMF C19 H15 Cl2 N4 S2



CM 2

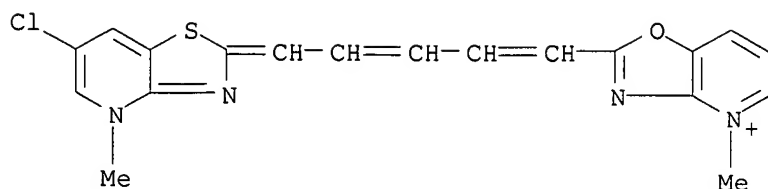
CRN 14797-73-0
 CMF Cl O4



RN 331815-59-9 HCA
 CN Oxazolo[4,5-b]pyridinium, 2-[5-(6-chloro-4-methylthiazolo[4,5-b]pyridin-2(4H)-ylidene)-1,3-pentadienyl]-4-methyl-, perchlorate (9CI) (CA INDEX NAME)

CM 1

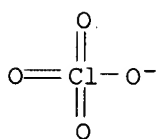
CRN 331815-58-8
 CMF C19 H16 Cl N4 O S



CM 2

CRN 14797-73-0

CMF Cl O4



L53 ANSWER 5 OF 18 HCA COPYRIGHT 2003 ACS on STN

134:266295 Preparation of azaindole derivatives for fluorescence labeling.

Nishigaki, Junji; Nakamura, Kouki (Fuji Photo Film Co., Ltd., Japan). PCT

Int. Appl. WO 2001021624 A1 20010329, 89 pp. DESIGNATED STATES: W: AE,

AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ,

DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS,

JP, KE, KG, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW,

MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT,

TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM;

RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, CY, DE, DK, ES, FI, FR, GA, GB,

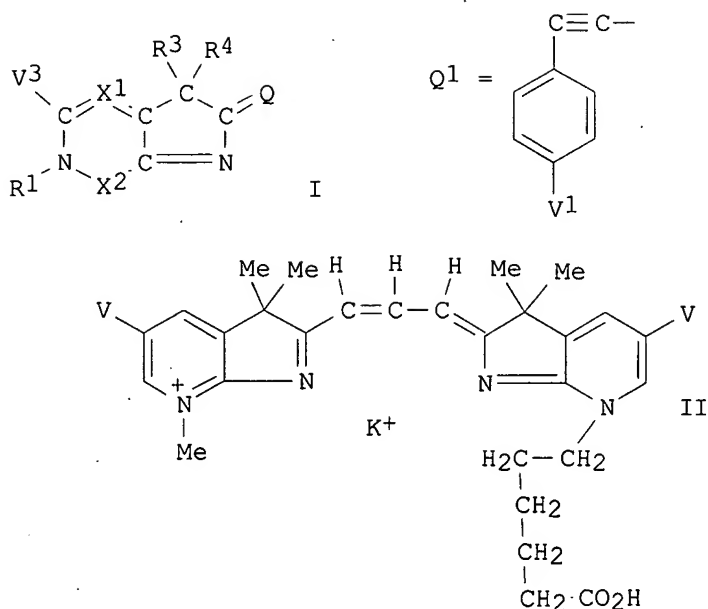
GR, IE, IT, LU, MC, ML, MR, NE, NL, PT, SE, SN, TD, TG. (Japanese).

CODEN: PIXXD2. APPLICATION: WO 2000-JP6401 20000920. PRIORITY: JP

1999-264844 19990920; JP 1999-264845 19990920; JP 1999-294910 19991018; JP

1999-294911 19991018; JP 2000-117451 20000419.

GI



AB The title compds. I [X1 = (CV2CV1)m; X2 = (CV4:CV5)n; V1 to V5 represent each hydrogen, halogeno, alkyl, alkenyl, a group selected from a group consisting of groups capable of forming a covalent bond together with a substance to be labeled, etc., or V1 and V2 may be bonded to each other to form a satd. or unsatd. ring; R1 represents hydrogen or a group selected from a group consisting of alkyl, aryl and heterocyclic groups; R3 and R4 represent each alkyl, or R3 and R4 may be bonded to each other to form a ring; Q represents atoms which are necessary in forming a methine **chromophore**; and m and n represent each 0 or 1, provided that m+n is 1] are prepd. I are useful in detg. DNA sequence, assaying physiol. active substances by the fluorescent immunoassay method, etc. The title compd. II [V = Q1; V1 = SO3-] was prepd. and showed max. fluorescence at 669 nm. The fluorescence intensity of compds. of this invention is 2 - 3 times stronger than that of prior art fluorescent **dyes**.

IC ICM C07D519-00

ICS C07D471-04; C07D491-107; C07D471-20; C07F009-6561

CC 28-2 (Heterocyclic Compounds (More Than One Hetero Atom))

Section cross-reference(s): 3, 9, 41

IT **Dyes**

(azaindole derivs. for fluorescence labeling in DNA sequence detn. and fluorescent immunoassay)

IT 331777-48-1 331777-49-2 331777-50-5 331777-51-6

331777-52-7 331777-53-8 331777-54-9 331777-55-0

331777-56-1 331777-57-2 331777-58-3 331777-59-4 331777-60-7

331777-61-8 331777-62-9 331777-63-0 331777-64-1

331777-65-2 331778-83-7

RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); PRP (Properties); BIOL (Biological study)

(prepn. of azaindole derivs. for fluorescence labeling)

IT 331777-50-5 331777-51-6 331777-52-7

331777-61-8 331777-63-0 331777-65-2

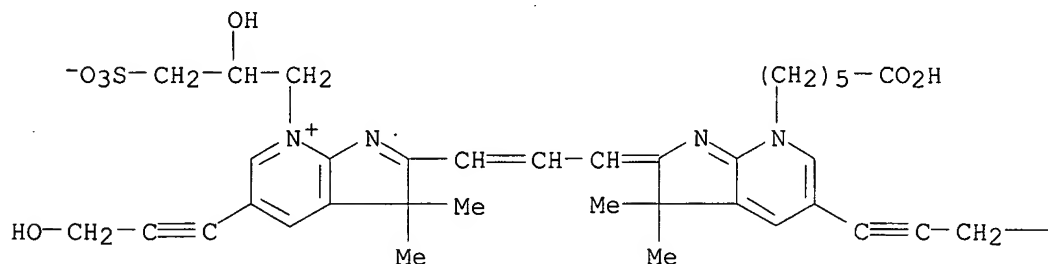
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); PRP (Properties); BIOL (Biological study)

(prepn. of azaindole derivs. for fluorescence labeling)

RN 331777-50-5 HCA

CN 3H-Pyrrolo[2,3-b]pyridinium, 2-[3-[7-(5-carboxypentyl)-3,7-dihydro-5-(3-hydroxy-1-propynyl)-3,3-dimethyl-2H-pyrrolo[2,3-b]pyridin-2-ylidene]-1-propenyl]-7-(2-hydroxy-3-sulfopropyl)-5-(3-hydroxy-1-propynyl)-3,3-dimethyl-, inner salt (9CI) (CA INDEX NAME)

PAGE 1-A



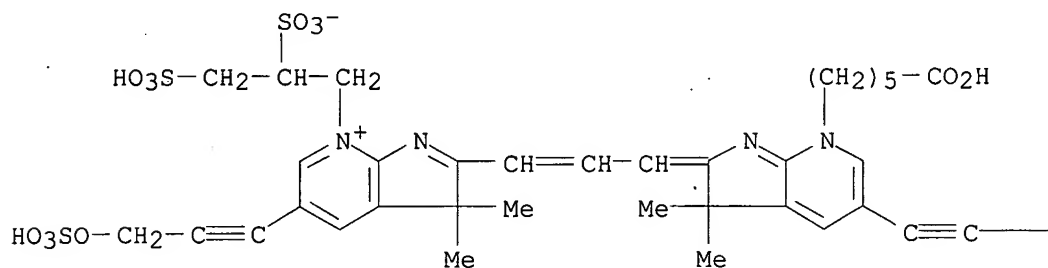
PAGE 1-B

— OH

RN 331777-51-6 HCA

CN 3H-Pyrrolo[2,3-b]pyridinium, 2-[3-[7-(5-carboxypentyl)-3,7-dihydro-3,3-dimethyl-5-[3-(sulfooxy)-1-propynyl]-2H-pyrrolo[2,3-b]pyridin-2-ylidene]-1-propenyl]-3,3-dimethyl-5-[3-(sulfooxy)-1-propynyl]-7-[3-sulfo-2-(sulfooxy)propyl]-, inner salt, tripotassium salt (9CI) (CA INDEX NAME)

PAGE 1-A



● 3 K

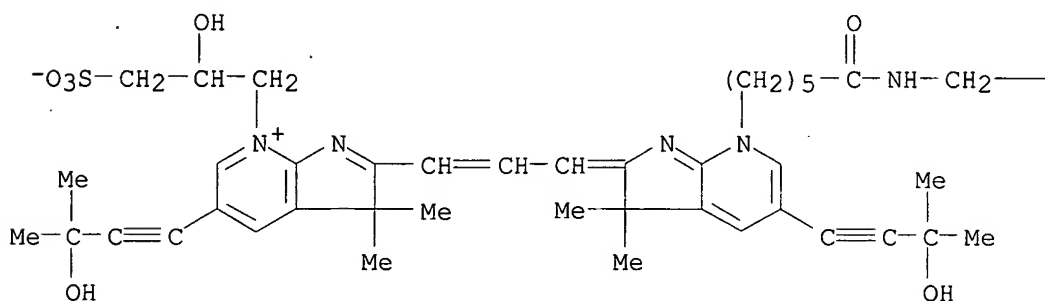
PAGE 1-B

—CH₂—OSO₃H

RN 331777-52-7 HCA

CN 3H-Pyrrolo[2,3-b]pyridinium, 2-[3-[7-[6-[(2-carboxyethyl)amino]-6-oxohexyl]-3,7-dihydro-5-(3-hydroxy-3-methyl-1-butynyl)-3,3-dimethyl-2H-pyrrolo[2,3-b]pyridin-2-ylidene]-1-propenyl]-5-(3-hydroxy-3-methyl-1-butynyl)-7-(2-hydroxy-3-sulfopropyl)-3,3-dimethyl-, inner salt (9CI) (CA INDEX NAME)

PAGE 1-A

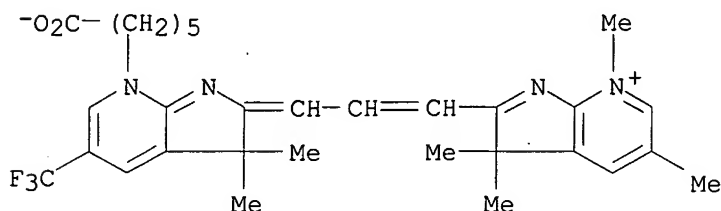


PAGE 1-B

—CH₂—CO₂H

RN 331777-61-8 HCA

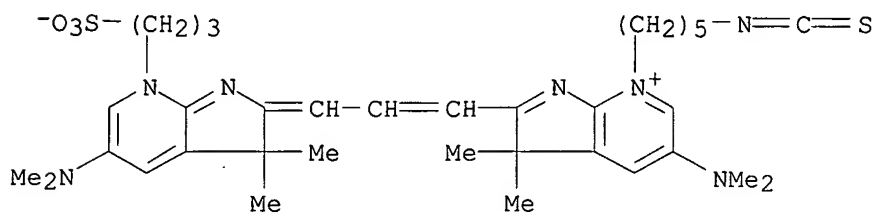
CN 3H-Pyrrolo[2,3-b]pyridinium, 2-[3-[7-(5-carboxypentyl)-3,7-dihydro-3,3-dimethyl-5-(trifluoromethyl)-2H-pyrrolo[2,3-b]pyridin-2-ylidene]-1-propenyl]-3,3,5,7-tetramethyl-, inner salt (9CI) (CA INDEX NAME)



RN 331777-63-0 HCA

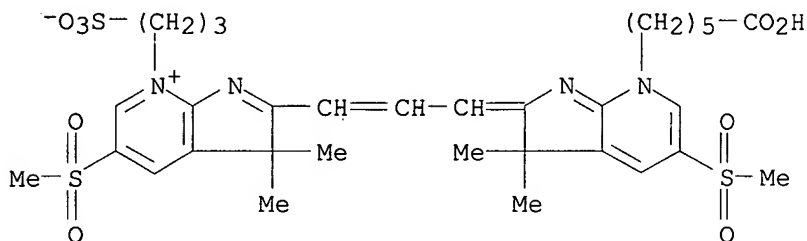
CN 3H-Pyrrolo[2,3-b]pyridinium, 5-(dimethylamino)-2-[3-[5-(dimethylamino)-3,7-

dihydro-3,3-dimethyl-7-(3-sulfopropyl)-2H-pyrrolo[2,3-b]pyridin-2-ylidene]-1-propenyl]-7-(5-isothiocyanatopentyl)-3,3-dimethyl-, inner salt (9CI)
(CA INDEX NAME)



RN 331777-65-2 HCA

CN 3H-Pyrrolo[2,3-b]pyridinium, 2-[3-[7-(5-carboxypentyl)-3,7-dihydro-3,3-dimethyl-5-(methylsulfonyl)-2H-pyrrolo[2,3-b]pyridin-2-ylidene]-1-propenyl]-3,3-dimethyl-5-(methylsulfonyl)-7-(3-sulfopropyl)-, inner salt (9CI) (CA INDEX NAME)



L53 ANSWER 6 OF 18 HCA COPYRIGHT 2003 ACS on STN

110:156084 Synthesis and absorption spectra of polymethine **dyes** - derivatives of substituted thieno- and indolothiazoles. Dzyubenko, V. G.; Pinkin, L. D.; Abramenko, P. I. (Vses. Nauchno-Issled. Inst. Khim.-Farm. Prom., Moscow, 125167, USSR). Khimiya Geterotsiklicheskikh Soedinenii (9), 1278-83 (Russian) **1988**. CODEN: KGSSAQ. ISSN: 0453-8234.

AB Cyanine, merocyanine, and styryl **dyes** were prepd. from halo-, alkyl-, cyclohexano-, and arylthieno[2,3-d]thiazoles and from halo- and alkylindolo[3,2-d]thiazoles. Both electron-donor and electron-acceptor substituents in the 5 and 5'-positions of the heterocyclic radicals of thienothiazolo carbocyanines led to more uniform electron d. distribution in the **chromophore** than in the unsubstituted analogs and to a bathochromic shift of the absorption max. Me substituents in the heterocyclic rings of indolothiazolo carbocyanines caused a small bathochromic effect.

CC 41-6 (Dyes, Organic Pigments, Fluorescent Brighteners, and Photographic Sensitizers)

ST thienothiazole cyanine **dye** spectra; indolothiazole cyanine **dye** spectra; thiazole thieno indolo cyanine **dye**; styryl **dye** thienothiazole indolothiazole; merocyanine **dye** thienothiazole indolothiazole

IT **Dyes**, cyanine (indolothiazolium and thienothiazolium derivs., prepn. and spectral properties of)

IT Substituent effect (on spectral properties of indolothiazolium and thienothiazolium cyanine **dyes**)

IT 39034-02-1P 119790-15-7P 119790-16-8P 119790-17-9P

119790-18-0P 119790-19-1P 119790-20-4P 119790-21-5P 119790-22-6P
119790-23-7P 119790-24-8P 119790-25-9P 119790-26-0P 119790-27-1P
119790-28-2P 119790-29-3P 119790-30-6P 119790-31-7P
119790-32-8P **119790-33-9P** **119790-34-0P**
119790-35-1P 119790-36-2P 119790-37-3P 119790-38-4P
119790-39-5P 119790-40-8P 119790-41-9P 119790-42-0P
119790-43-1P 119798-55-9P 119798-56-0P 119798-57-1P
119798-58-2P 119798-59-3P 119798-60-6P

RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(**dye**, prepn. and spectral properties of)

IT **72380-25-7** 119830-97-6 119830-98-7 **119830-99-8**
119831-00-4

RL: USES (Uses)

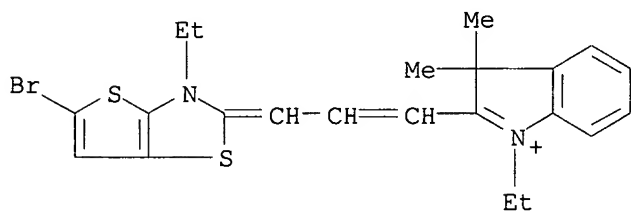
(quantum chem. calcns. for)

IT **119790-15-7P** **119790-16-8P** **119790-28-2P**
119790-33-9P **119790-34-0P** **119790-35-1P**
119790-43-1P **119798-58-2P**

RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(**dye**, prepn. and spectral properties of)

RN 119790-15-7 HCA

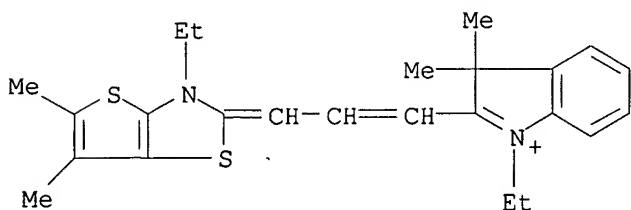
CN 3H-Indolium, 2-[3-(5-bromo-3-ethylthieno[2,3-d]thiazol-2(3H)-ylidene)-1-propenyl]-1-ethyl-3,3-dimethyl-, iodide (9CI) (CA INDEX NAME)



● I⁻

RN 119790-16-8 HCA

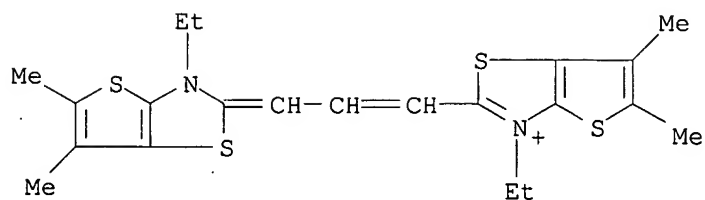
CN 3H-Indolium, 1-ethyl-2-[3-(3-ethyl-5,6-dimethylthiazolo[2,3-d]thiazol-2(3H)-ylidene)-1-propenyl]-3,3-dimethyl-, iodide (9CI) (CA INDEX NAME)



● I⁻

RN 119790-28-2 HCA

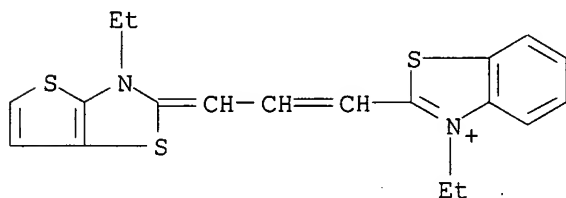
CN Thieno[2,3-d]thiazolium, 3-ethyl-2-[3-(3-ethyl-5,6-dimethylthieno[2,3-d]thiazol-2(3H)-ylidene)-1-propenyl]-5,6-dimethyl-, iodide (9CI) (CA INDEX NAME)



● I⁻

RN 119790-33-9 HCA

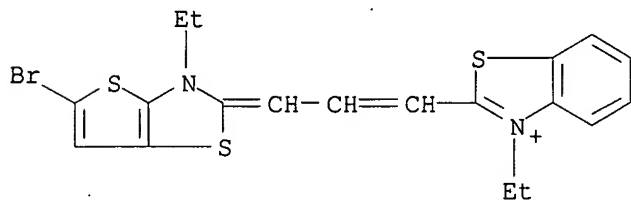
CN Benzothiazolium, 3-ethyl-2-[3-(3-ethylthieno[2,3-d]thiazol-2(3H)-ylidene)-1-propenyl]-, iodide (9CI) (CA INDEX NAME)



● I⁻

RN 119790-34-0 HCA

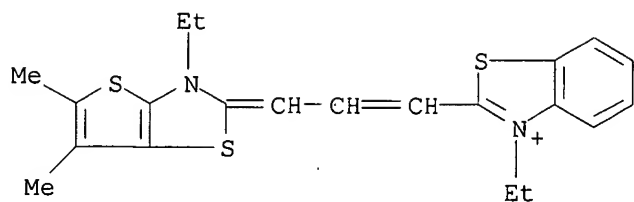
CN Benzothiazolium, 2-[3-(5-bromo-3-ethylthieno[2,3-d]thiazol-2(3H)-ylidene)-1-propenyl]-3-ethyl-, iodide (9CI) (CA INDEX NAME)



● I⁻

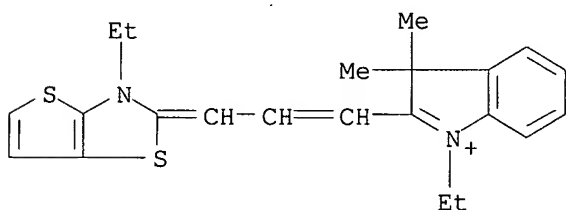
RN 119790-35-1 HCA

CN Benzothiazolium, 3-ethyl-2-[3-(3-ethyl-5,6-dimethylthieno[2,3-d]thiazol-2(3H)-ylidene)-1-propenyl]-, iodide (9CI) (CA INDEX NAME)



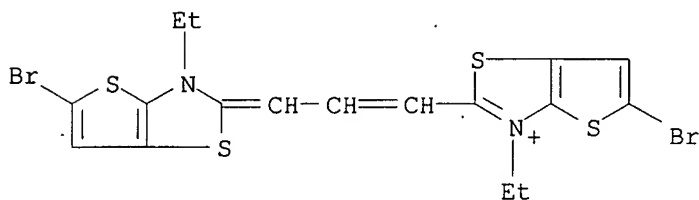
● I⁻

RN 119790-43-1 HCA
 CN 3H-Indolium, 1-ethyl-2-[3-(3-ethylthieno[2,3-d]thiazol-2(3H)-ylidene)-1-propenyl]-3,3-dimethyl-, iodide (9CI) (CA INDEX NAME)



● I⁻

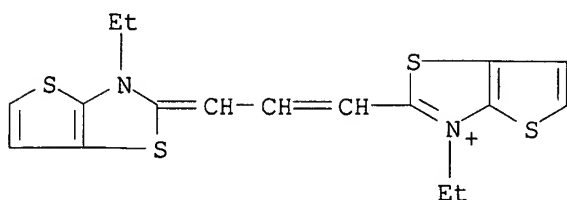
RN 119798-58-2 HCA
 CN Thieno[2,3-d]thiazolium, 5-bromo-2-[3-(5-bromo-3-ethylthieno[2,3-d]thiazol-2(3H)-ylidene)-1-propenyl]-3-ethyl-, iodide (9CI) (CA INDEX NAME)



● I⁻

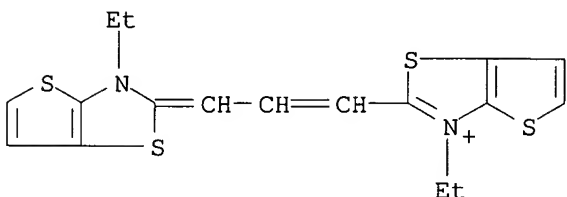
IT 72380-25-7 119830-99-8 119831-00-4
 RL: USES (Uses)
 (quantum chem. calcs. for)

RN 72380-25-7 HCA
 CN Thieno[2,3-d]thiazolium, 3-ethyl-2-[3-(3-ethylthieno[2,3-d]thiazol-2(3H)-ylidene)-1-propenyl]-, iodide (9CI) (CA INDEX NAME)



● I⁻

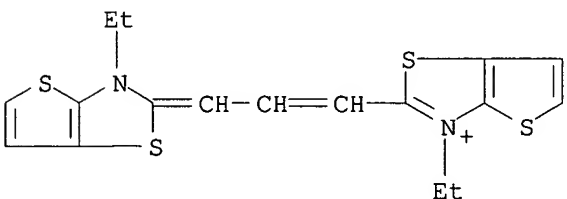
RN 119830-99-8 HCA
 CN Thieno[2,3-d]thiazolium, bromo-2-[3-(bromo-3-ethylthieno[2,3-d]thiazol-2(3H)-ylidene)-1-propenyl]-3-ethyl-, iodide (9CI) (CA INDEX NAME)



2 (D1- Br)

● I⁻

RN 119831-00-4 HCA
 CN Thieno[2,3-d]thiazolium, 3-ethyl-2-[3-(3-ethylnitrothieno[2,3-d]thiazol-2(3H)-ylidene)-1-propenyl]nitro-, iodide (9CI) (CA INDEX NAME)

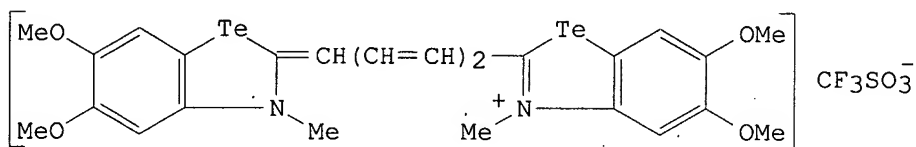


2 [D1- NO₂]

I⁻

L53 ANSWER 7 OF 18 HCA COPYRIGHT 2003 ACS on STN
 107:67994 Photographic image formation method. Kamitakahara, Atsushi;
 Takahashi, Nensho; Iwagaki, Masaru; Kunieda, Sunao (Konishiroku Photo
 Industry Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 61277951 A2
 19861208 Showa, 48 pp. (Japanese). CODEN: JKXXAF. APPLICATION:
 JP 1985-119365 19850601.

GI



AB In the claimed photog. imaging process, a photog. photosensitive material sensitized with a sensitizer **dye** having a 5-membered heterocyclic ring in which N and Te atoms are bonded via a C atom is processed by using a stabilization-washing soln. without washing after (bleach)-fixing. The method gives photographs with very few stains. Thus, a test photog. photosensitive material having a red-sensitive emulsion layer sensitized with I was imagewise exposed, **color**-developed, bleach-fixed, and treated in a stabilization-washing soln. contg. 5-chloro-2-methyl-4-isothiazolin-3-one, 2-methyl-4-isothiazolin-3-one, ethylene glycol, 2-octyl-4-isothiazolin-3-one, 1-hydroxyethylidene-1,1-diphosphonic acid, BiCl₂, NH₄OH, and nitrilotrimethylenephosphoric acid to give images with very few stains.

IC ICM G03C007-40
 ICS G03C001-12

ICA C07D421-06; C07D517-04; C07D517-06; C07D519-00

ICI C07D421-06, C07D231-00, C07D293-00; C07D421-06, C07D263-00, C07D293-00;
 C07D421-06, C07D277-00, C07D293-00; C07D519-00, C07D517-06; C07D519-00,
 C07D517-04

CC 74-2 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
 Section cross-reference(s): 28, 41

ST **color** photog imaging process; stabilization washing
color photog processing; sensitizer **dye** photog
 tellurazole deriv

IT Photographic processing

(**color**, washing-stabilization in)

IT 60-00-4, Ethylenediaminetetraacetic acid, uses and miscellaneous
 107-21-1, uses and miscellaneous 2224-44-4, 4-(2-Nitrobutyl)morpholine
 2682-20-4, 2-Methyl-4-isothiazolin-3-one 2809-21-4, 1-Hydroxyethylidene-
 1,1-diphosphonic acid 6419-19-8, Nitrilotrimethylenephosphonic acid
 10196-04-0, Ammonium sulfite 18756-62-2 26172-55-4,
 5-Chloro-2-methyl-4-isothiazolin-3-one 26530-20-1 57029-18-2,
 Polyhexamethylene guanidine hydrochloride 109057-25-2

RL: USES (Uses)

(**color** photog. stabilizing-washing soln. contg.)

IT 102365-43-5P 108285-81-0P 108286-34-6P 108318-85-0P 108410-79-3P
 108464-91-1P 108464-92-2P 108464-93-3P 108464-94-4P 108464-95-5P
 108465-25-4P 108465-26-5P 108465-44-7P 108497-55-8P 108497-56-9P
 109057-17-2P 109135-82-2P

RL: PREP (Preparation)

(prepn. of, as photog. sensitizer)

IT 109057-17-2P

RL: PREP (Preparation)

(prepn. of, as photog. sensitizer)

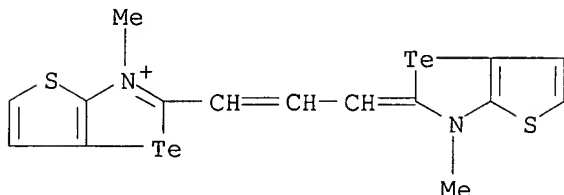
RN 109057-17-2 HCA

CN Thieno[2,3-d]tellurazolium, 3-methyl-2-[3-(3-methylthieno[2,3-d]tellurazol-2(3H)-ylidene)-1-propenyl]-, salt with trifluoromethanesulfonic acid (1:1) (9CI) (CA INDEX NAME)

CM 1

CRN 108497-58-1

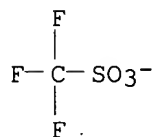
CMF C15 H13 N2 S2 Te2



CM 2

CRN 37181-39-8

CMF C F3 O3 S

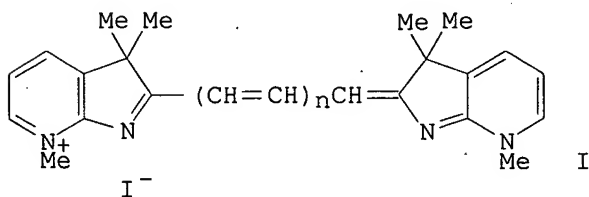


L53 ANSWER 8 OF 18 HCA COPYRIGHT 2003 ACS on STN

103:161855 Polymethine **dyes** derived from 5- and 7-azaindolenines.

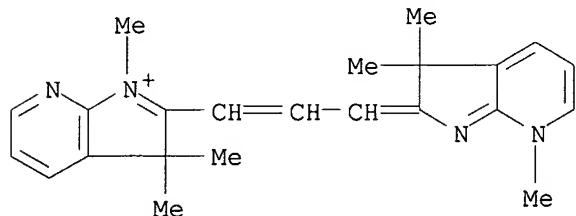
Shevchuk, L. I.; Tolmacheva, V. S.; Babichev, F. S.; Mikhailenko, F. A.
 (Kiev. Gos. Univ., Kiev, USSR). Ukrainskii Khimicheskii Zhurnal (Russian
 Edition), 51(4), 435-8 (Russian) **1985**. CODEN: UKZHAU. ISSN:
 0041-6045.

GI



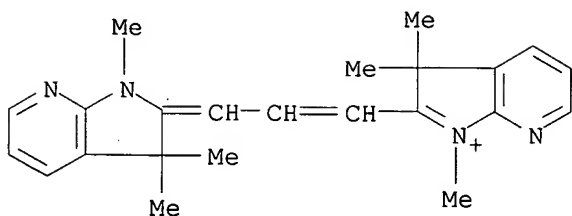
AB Several title **dyes**, such as I (n = 1, 2), form di- and tricationic forms as the soln. acidity is increased. The dications have both pos. charges at the same end of the mol. and are intensely luminescent. For I the vinylene shift was 92 nm, but for the trication form it was 82 nm. Heating I (n = 1) [98664-09-6] for 1 min at 270.degree. caused isomerization with migration of the Me groups from the

- pyridine N atoms to the pyrrole N atoms.
- CC 41-6 (Dyes, Organic Pigments, Fluorescent Brighteners, and Photographic Sensitizers)
- ST azaindole cyanine **dye** protonation
- IT **Dyes**, cyanine
(azaindole derivs., prepn. and reactions and spectra of)
- IT Ultraviolet and **visible** spectra
(of pyrrolopyridine cyanine **dyes**, protonation effect on)
- IT Protonation and Proton transfer reaction
(of pyrrolopyridine cyanine **dyes**, spectra in relation to)
- IT Isomerization
(thermal, of pyrrolopyridine cyanine **dyes**, with Me shift)
- IT **98570-21-9P**
RL: RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
(formation and isomerization of, with Me migration)
- IT **98570-20-8P**
RL: FORM (Formation, nonpreparative); PREP (Preparation)
(formation of, by isomerization with Me migration)
- IT **98570-11-7P**
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT
(Reactant or reagent)
(prepn. and protonation of, spectra in relation to)
- IT 98570-10-6P 98570-15-1P 98570-19-5P
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(prepn. and spectra of)
- IT **98664-09-6**
RL: RCT (Reactant); RACT (Reactant or reagent)
(protonation and isomerization of, spectra in relation to)
- IT **89469-99-8**
RL: RCT (Reactant); RACT (Reactant or reagent)
(protonation of, spectra in relation to)
- IT **98570-21-9P**
RL: RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
(formation and isomerization of, with Me migration)
- RN 98570-21-9 HCA
- CN 3H-Pyrrolo[2,3-b]pyridinium, 2-[3-(3,7-dihydro-3,3,7-trimethyl-2H-pyrrolo[2,3-b]pyridin-2-ylidene)-1-propenyl]-1,3,3-trimethyl-, iodide
(9CI) (CA INDEX NAME)



● I⁻

- IT **98570-20-8P**
RL: FORM (Formation, nonpreparative); PREP (Preparation)
(formation of, by isomerization with Me migration)
- RN 98570-20-8 HCA
- CN 3H-Pyrrolo[2,3-b]pyridinium, 2-[3-(1,3-dihydro-1,3,3-trimethyl-2H-pyrrolo[2,3-b]pyridin-2-ylidene)-1-propenyl]-1,3,3-trimethyl-, iodide
(9CI) (CA INDEX NAME)

● I⁻

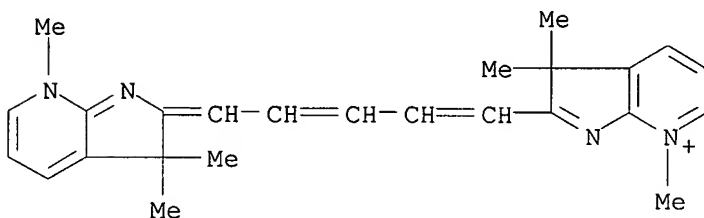
IT 98570-11-7P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(prepn. and protonation of, spectra in relation to)

RN 98570-11-7 HCA

CN 3H-Pyrrolo[2,3-b]pyridinium, 2-[5-(3,7-dihydro-3,3,7-trimethyl-2H-pyrrolo[2,3-b]pyridin-2-ylidene)-1,3-pentadienyl]-3,3,7-trimethyl-, iodide (9CI) (CA INDEX NAME)

● I⁻

IT 98570-15-1P 98570-19-5P

RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation) (prepn. and spectra of)

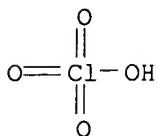
RN 98570-15-1 HCA

CN 1H-Pyrrolo[3,2-c]pyridinium, 2,3-dihydro-3,3,5-trimethyl-2-[3-(3,3,5-trimethyl-3H-pyrrolo[3,2-c]pyridinium-2-yl)-2-propenylidene]-, diperchlorate, monoperchlorate (9CI) (CA INDEX NAME)

CM 1

CRN 7601-90-3

CMF Cl H O4

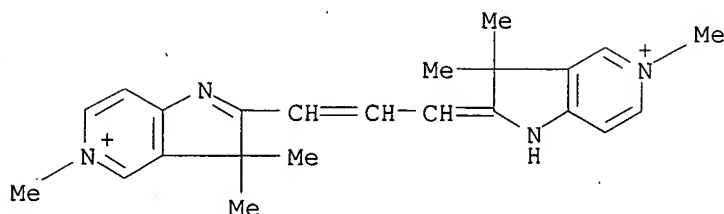


CM 2

CRN 98570-14-0
CMF C23 H28 N4 . 2 Cl O4

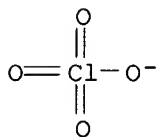
CM 3

CRN 98570-13-9
CMF C23 H28 N4



CM 4

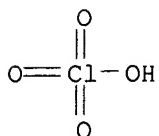
CRN 14797-73-0
CMF Cl O4



RN 98570-19-5 HCA
CN 3H-Pyrrolo[3,2-c]pyridinium, 2-[3-(1,3-dihydro-1,3,3-trimethyl-2H-indol-2-ylidene)-1-propenyl]-3,3,5-trimethyl-, perchlorate, monoperchlorate (9CI)
(CA INDEX NAME)

CM 1

CRN 7601-90-3
CMF Cl H O4

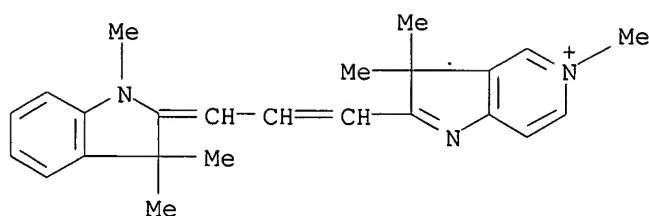


CM 2

CRN 98570-18-4
CMF C24 H28 N3 . Cl O4

CM 3

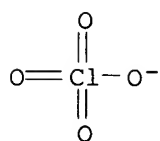
CRN 98570-17-3
CMF C24 H28 N3



CM 4

CRN 14797-73-0

CMF Cl O4



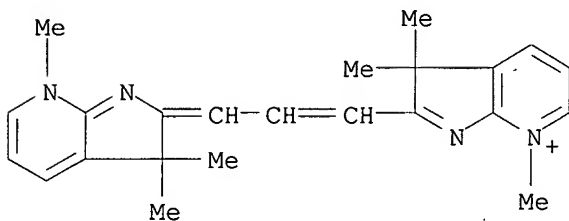
IT 98664-09-6

RL: RCT (Reactant); RACT (Reactant or reagent)

(protonation and isomerization of, spectra in relation to)

RN 98664-09-6 HCA

CN 3H-Pyrrolo[2,3-b]pyridinium, 2-[3-(3,7-dihydro-3,3,7-trimethyl-2H-pyrrolo[2,3-b]pyridin-2-ylidene)-1-propenyl]-3,3,7-trimethyl-, iodide (9CI) (CA INDEX NAME)

● I⁻

IT 89469-99-8

RL: RCT (Reactant); RACT (Reactant or reagent)

(protonation of, spectra in relation to)

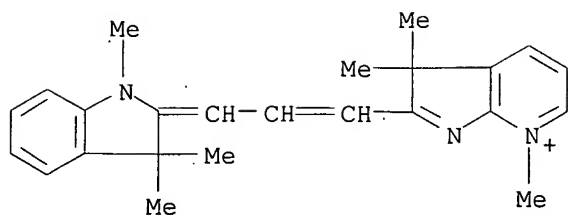
RN 89469-99-8 HCA

CN 3H-Pyrrolo[2,3-b]pyridinium, 2-[3-(1,3-dihydro-1,3,3-trimethyl-2H-indol-2-ylidene)-1-propenyl]-3,3,7-trimethyl-, perchlorate (9CI) (CA INDEX NAME)

CM 1

CRN 89469-98-7

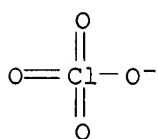
CMF C24 H28 N3



CM 2

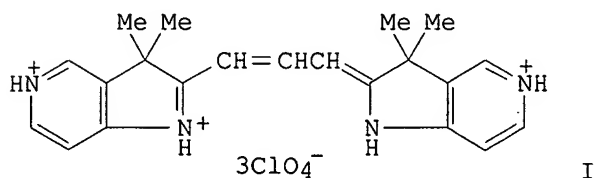
CRN 14797-73-0

CMF C1 04



L53 ANSWER 9 OF 18 HCA COPYRIGHT 2003 ACS on STN
103:143348 Halochromism of NH **dyes**, derivatives of 5- and
7-azaindolenines. Shevchuk, L. I.; Tolmacheva, V. S.; Babichev, F. S.;
Mikhailenko, F. A. (Kiev. Gos. Univ., Kiev, USSR). *Ukrainskii
Khimicheskii Zhurnal* (Russian Edition), 51(5), 525-8 (Russian)
1985. CODEN: UKZHAAU. ISSN: 0041-6045.

GI



AB Successive removal of H atoms from trication I [98570-36-6] (.lambda.max 534 nm) by reducing the acidity of the medium gave a dication, monocation, neutral species, and monoanion with .lambda.max 470, 422, 444, and 567 nm, resp. The 6,7-benzo deriv. of I showed similar behavior. The 7-aza isomer, however, showed .lambda.max of 542, 478, 534, 442, and 561 nm for the 5 forms, resp., possibly indicating that the monocation had both pyrrole N's protonated, rather than one pyridine N.

CC 41-6 (Dyes, Organic Pigments, Fluorescent Brighteners, and Photographic Sensitizers)

IT **Dyes**, cyanine
(azaindoles, halochromism of)

IT **98570-23-1P 98570-24-2P 98570-25-3P**
98570-26-4P 98570-28-6P 98570-29-7P 98570-30-0P
98570-31-1P 98570-32-2P 98570-33-3P
98570-34-4P 98570-35-5P 98570-36-6P
98664-07-4P 98664-08-5P

RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)

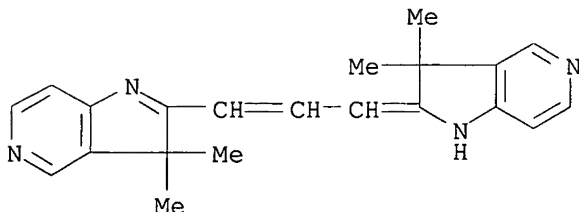
(prepn. and **visible** absorption of)

IT 98570-23-1P 98570-24-2P 98570-25-3P
98570-26-4P 98570-31-1P 98570-32-2P
98570-33-3P 98570-34-4P 98570-35-5P
98570-36-6P

RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(prepn. and **visible** absorption of)

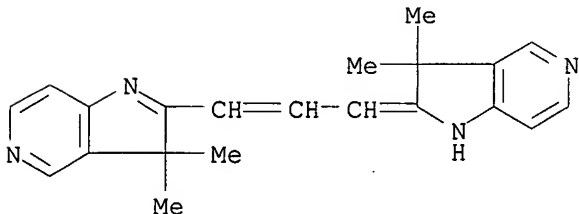
RN 98570-23-1 HCA

CN 1H-Pyrrolo[3,2-c]pyridine, 2-[3-(3,3-dimethyl-3H-pyrrolo[3,2-c]pyridin-2-yl)-2-propenylidene]-2,3-dihydro-3,3-dimethyl-, conjugate diacid (9CI)
(CA INDEX NAME)

● 2 H⁺

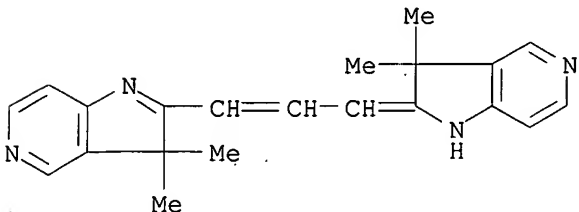
RN 98570-24-2 HCA

CN 1H-Pyrrolo[3,2-c]pyridine, 2-[3-(3,3-dimethyl-3H-pyrrolo[3,2-c]pyridin-2-yl)-2-propenylidene]-2,3-dihydro-3,3-dimethyl-, conjugate monoacid (9CI)
(CA INDEX NAME)

● H⁺

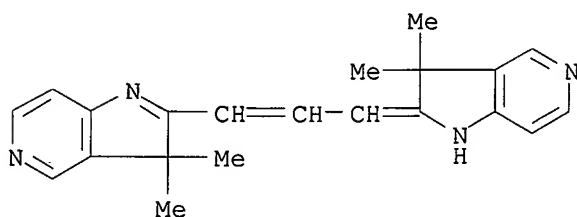
RN 98570-25-3 HCA

CN 1H-Pyrrolo[3,2-c]pyridine, 2-[3-(3,3-dimethyl-3H-pyrrolo[3,2-c]pyridin-2-yl)-2-propenylidene]-2,3-dihydro-3,3-dimethyl- (9CI) (CA INDEX NAME)



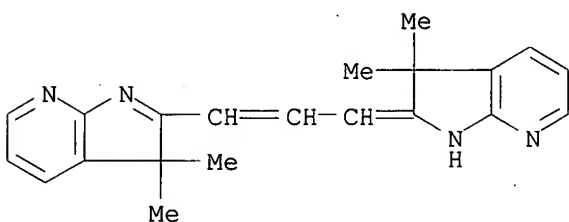
RN 98570-26-4 HCA

CN 1H-Pyrrolo[3,2-c]pyridine, 2-[3-(3,3-dimethyl-3H-pyrrolo[3,2-c]pyridin-2-yl)-2-propenylidene]-2,3-dihydro-3,3-dimethyl-, sodium salt (9CI) (CA INDEX NAME)



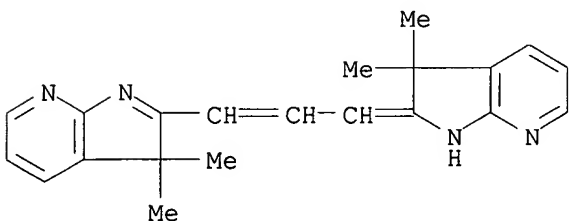
● Na

RN 98570-31-1 HCA
CN 1H-Pyrrolo[2,3-b]pyridine, 2-[3-(3,3-dimethyl-3H-pyrrolo[2,3-b]pyridin-2-yl)-2-propenylidene]-2,3-dihydro-3,3-dimethyl-, conjugate triacid (9CI) (CA INDEX NAME)



● 3 H⁺

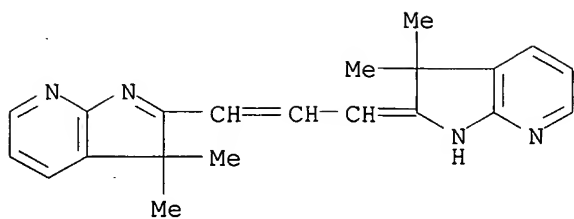
RN 98570-32-2 HCA
CN 1H-Pyrrolo[2,3-b]pyridine, 2-[3-(3,3-dimethyl-3H-pyrrolo[2,3-b]pyridin-2-yl)-2-propenylidene]-2,3-dihydro-3,3-dimethyl- (9CI) (CA INDEX NAME)



RN 98570-33-3 HCA
CN 1H-Pyrrolo[2,3-b]pyridine, 2-[3-(3,3-dimethyl-3H-pyrrolo[2,3-b]pyridin-2-yl)-2-propenylidene]-2,3-dihydro-3,3-dimethyl-, diperchlorate (9CI) (CA INDEX NAME)

CM 1

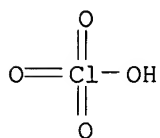
CRN 98570-32-2
CMF C21 H22 N4



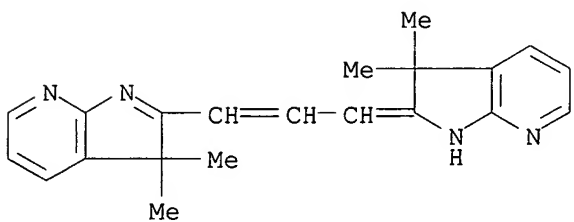
CM 2

CRN 7601-90-3

CMF Cl H O4

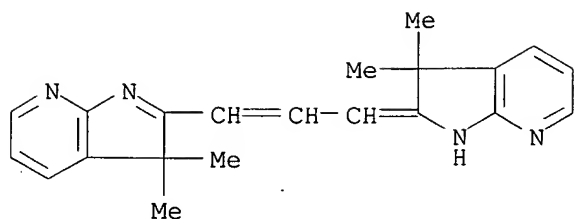


RN 98570-34-4 HCA

CN 1H-Pyrrolo[2,3-b]pyridine, 2-[3-(3,3-dimethyl-3H-pyrrolo[2,3-b]pyridin-2-yl)-2-propenylidene]-2,3-dihydro-3,3-dimethyl-, conjugate monoacid (9CI)
(CA INDEX NAME)● H⁺

RN 98570-35-5 HCA

CN 1H-Pyrrolo[2,3-b]pyridine, 2-[3-(3,3-dimethyl-3H-pyrrolo[2,3-b]pyridin-2-yl)-2-propenylidene]-2,3-dihydro-3,3-dimethyl-, sodium salt (9CI) (CA INDEX NAME)



● Na

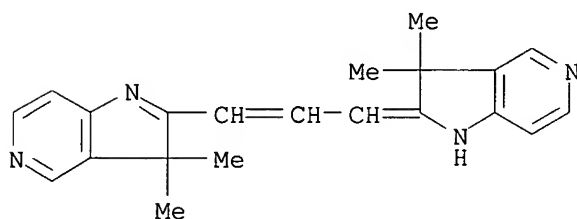
RN 98570-36-6 HCA

CN 1H-Pyrrolo[3,2-c]pyridine, 2-[3-(3,3-dimethyl-3H-pyrrolo[3,2-c]pyridin-2-yl)-2-propenylidene]-2,3-dihydro-3,3-dimethyl-, triperchlorate (9CI) (CA INDEX NAME)

CM 1

CRN 98570-25-3

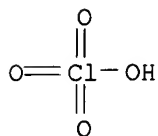
CMF C21 H22 N4



CM 2

CRN 7601-90-3

CMF Cl H O4



L53 ANSWER 10 OF 18 HCA COPYRIGHT 2003 ACS on STN
100:164969 Effect of the fixing of structure on the lasing efficiency of polymethine **dyes**. Posokh, S. V.; Gavrilov, O. D.; Mikhailenko, F. A.; Ryl'kov, V. V.; Slominskii, Yu. L.; Stepanov, A. I. (USSR). Zhurnal Prikladnoi Spektroskopii, 40(2), 218-22 (Russian) **1984**. CODEN: ZPSBAX. ISSN: 0514-7506.

AB A comparative investigation of polymethine **dyes** (PD) with fully and partially secured structures of mols. was undertaken in order to elucidate the possibility for decreasing the harmful losses occurring due to photoisomerization. The securing of structure allows one to obtain the lasing efficiency close to the limiting one as well as to conserve the

possibility for abnormally broad generation spectra.

CC 73-10 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)

ST structure polymethine **dye** lasing

IT **Dyes**, cyanine
(laser emission of, structure in relation to)

IT Molecular structure-property relationship
(laser emission, of polymethine **dyes**)

IT Luminescence
Ultraviolet and **visible** spectra
(of polymethine **dyes**)

IT Lasers
(**dye**, polymethine, structural effects in)

IT 78915-01-2 78915-03-4 78954-92-4 **89469-99-8**
89470-01-9 89470-02-0 89492-36-4 89492-37-5 89493-72-1
89718-06-9
RL: PRP (Properties)
(laser emission and optical properties of, structure in relation to)

IT **89469-99-8 89470-01-9**
RL: PRP (Properties)
(laser emission and optical properties of, structure in relation to)

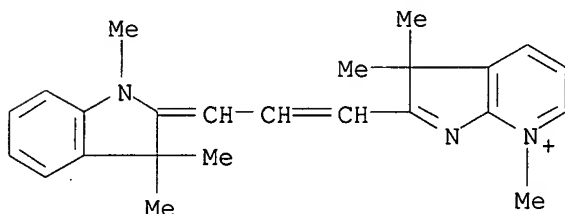
RN 89469-99-8 HCA

CN 3H-Pyrrolo[2,3-b]pyridinium, 2-[3-(1,3-dihydro-1,3,3-trimethyl-2H-indol-2-ylidene)-1-propenyl]-3,3,7-trimethyl-, perchlorate (9CI) (CA INDEX NAME)

CM 1

CRN 89469-98-7

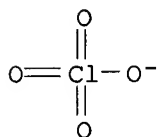
CMF C24 H28 N3



CM 2

CRN 14797-73-0

CMF Cl O4

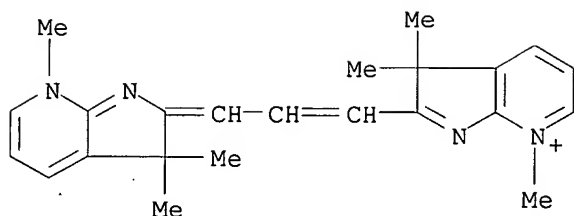


RN 89470-01-9 HCA

CN 3H-Pyrrolo[2,3-b]pyridinium, 2-[3-(3,7-dihydro-3,3,7-trimethyl-2H-pyrrolo[2,3-b]pyridin-2-ylidene)-1-propenyl]-3,3,7-trimethyl-, perchlorate (9CI) (CA INDEX NAME)

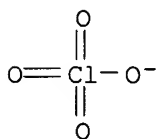
CM 1

CRN 89470-00-8
CMF C23 H27 N4



CM 2

CRN 14797-73-0
CMF Cl O4



L53 ANSWER 11 OF 18 HCA COPYRIGHT 2003 ACS on STN

92:24235 Carbocyanines substituted in the polymethine chain - thieno- and benzothienothiazole derivatives. Astrakhantseva, N. I.; Abramenko, P. I.; Zhiryakov, V. G. (USSR). Trudy Vsesoyuznogo Gosudarstvennogo Nauchno-Issledovatel'skogo i Proektnogo Instituta Khimiko-Fotograficheskoi Promyshlennosti, 25, 16-24 (Russian) 1977. CODEN: TVGNBK. ISSN: 0372-2724.

GI For diagram(s), see printed CA Issue.

AB Meso substitution (R = Me, Et, OEt) of sym. and unsym. carbocyanines (I) with thienothiazole and benzothienothiazole nuclei causes greater hypsochromic shift in the absorption max. than in thiocarbocyanines. In the synthesis of I, 2-mercaptothieno[2,3-d]thiazole, e.g., was oxidized with KMnO4 to the sulfonic acid, which was N-ethylated, condensed with (RCO)2CH2 (R = Me, Et), and hydrolyzed to give the 2-(acylmethylene)-3-ethyl-2,3-dihydrothieno[2,3-d]thiazoles (Q:CHCOR) (II). Alkylation of II with Et2SO4 gave the 2-(2-ethoxy-1-alkenyl)-3-ethylthieno[2,3-d]thiazolium Et sulfates (Q'CH:CROEt), which reacted with Na2S in 80% EtOH to give Q:CHCSR, which were realkylated with Et2SO4 to give Q'CH:CRSEt (III). Condensation of III with Q'Me gave the sym. carbocyanines; the other I (R = Me, Et) were similarly prepd. I (R = OEt) were prepd. by condensation of the quaternized 2-sulfo derivs. with, e.g., Q'CH:CMeOEt.

CC 40-12 (Dyes, Fluorescent Whitening Agents, and Photosensitizers)

ST thienothiazole carbocyanine meso substitution; benzothienothiazole carbocyanine meso substitution; cyanine **dye** thienothiazole

IT **Dyes, cyanine**
(thienothiazole and benzothienothiazole carbocyanines, prepn. of meso-substituted)

IT Molecular structure-property relationship
(**visible** spectra, of meso-substituted carbocyanine **dyes** with thienothiazole and(or) benzothienothiazole nuclei)

IT 1677-16-3P 54642-08-9P 54642-25-0P 54691-24-6P 72366-19-9P
72366-21-3P 72366-28-0P 72366-29-1P
72366-30-4P 72366-31-5P 72380-20-2P 72380-21-3P

72380-22-4P 72380-23-5P 72380-24-6P 72380-25-7P

RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of)

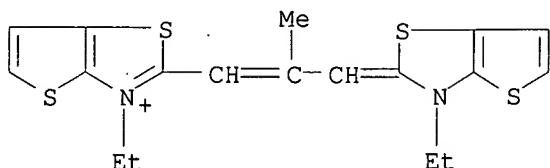
IT 72366-28-0P 72366-29-1P 72366-30-4P

72366-31-5P 72380-25-7P

RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of)

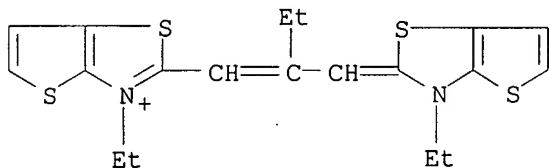
RN 72366-28-0 HCA

CN Thieno[2,3-d]thiazolium, 3-ethyl-2-[3-(3-ethylthieno[2,3-d]thiazol-2(3H)-ylidene)-2-methyl-1-propenyl]-, iodide (9CI) (CA INDEX NAME)

● I⁻

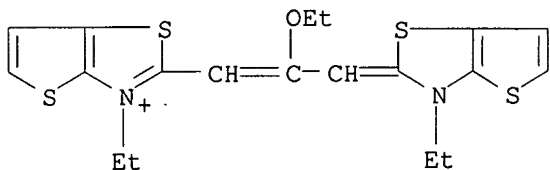
RN 72366-29-1 HCA

CN Thieno[2,3-d]thiazolium, 3-ethyl-2-[2-[(3-ethylthieno[2,3-d]thiazol-2(3H)-ylidene)methyl]-1-butenyl]-, iodide (9CI) (CA INDEX NAME)

● I⁻

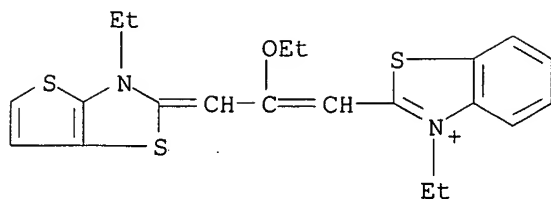
RN 72366-30-4 HCA

CN Thieno[2,3-d]thiazolium, 2-[2-ethoxy-3-(3-ethylthieno[2,3-d]thiazol-2(3H)-ylidene)-1-propenyl]-3-ethyl-, iodide (9CI) (CA INDEX NAME)

● I⁻

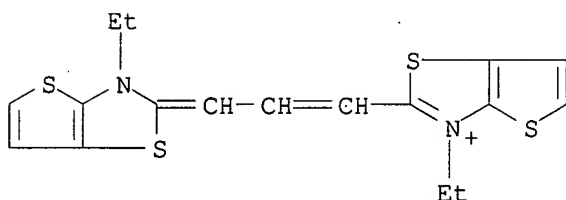
RN 72366-31-5 HCA

CN Benzothiazolium, 2-[2-ethoxy-3-(3-ethylthieno[2,3-d]thiazol-2(3H)-ylidene)-1-propenyl]-3-ethyl-, iodide (9CI) (CA INDEX NAME)

● I⁻

RN 72380-25-7 HCA

CN Thieno[2,3-d]thiazolium, 3-ethyl-2-[3-(3-ethylthieno[2,3-d]thiazol-2(3H)-ylidene)-1-propenyl]-, iodide (9CI) (CA INDEX NAME)

● I⁻

L53 ANSWER 12 OF 18 HCA COPYRIGHT 2003 ACS on STN

89:112298 Quantum-chemical calculations of the electronic structure of polymethine **dyes**. Abramenko, P. I.; Kosobutskii, V. A. (Vses. Nauchno-Issled. Inst. Sint. Smol, Vladimir, USSR). Khimiya Geterotsiklicheskih Soedinenii (5), 626-33 (Russian) **1978**. CODEN: KGSSAQ. ISSN: 0453-8234.

AB MO calcns. were performed by the Pariser-Parr-Pople method on 51 cyanine **dyes**, and the absorption spectra, reactivity, and electronic structure (charge distribution and bond orders) were calcd. and discussed. Strong electron-donor groups in the meso position of polymethine chains of thiacyanines increase the excitation energy and decrease the uniformity of electron d. and bond order, which shifts the absorption max. to shorter wavelength.

CC 40-12 (Dyes, Fluorescent Whitening Agents, and Photosensitizers)
Section cross-reference(s): 22

ST MO calcn cyanine **dye**IT **Dyes**, cyanine

(electronic structure of, PPP calcn. of)

IT Electron configuration

Ultraviolet and visible spectra

(o polymethine **dyes**, PPP calcn. of)

IT	7187-55-5	18403-49-1	20187-38-6	20766-55-6	20766-62-5	20766-63-6
	20766-66-9	20766-68-1	23306-21-0	23306-23-2	23728-07-6	
	27128-28-5	37069-75-3	38912-20-8	46824-14-0	53179-56-9	
	53179-57-0	55199-41-2	56278-29-6	56295-94-4	58089-16-0	
	58089-19-3	58089-24-0	67193-54-8	67193-55-9	67193-56-0	

67193-57-1 67193-58-2 67193-59-3 67193-60-6 67193-61-7
67193-62-8 67193-63-9 **67193-64-0** 67193-65-1
67193-66-2 **67193-67-3** **67193-68-4** 67193-69-5
67193-70-8 67193-71-9 67193-72-0 67193-73-1 67193-74-2
67193-75-3 67193-76-4 67193-77-5 67193-78-6 67193-79-7
67193-80-0 67224-64-0

RL: PRP (Properties)

(electronic structure of, PPP calcn. of)

IT **56278-29-6** **67193-64-0** **67193-66-2**

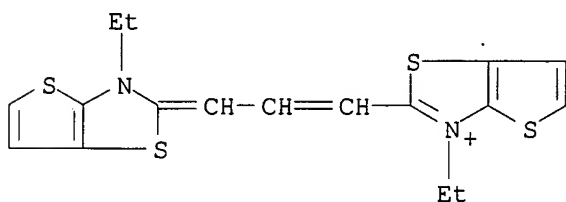
67193-67-3 **67193-68-4**

RL: PRP (Properties)

(electronic structure of, PPP calcn. of)

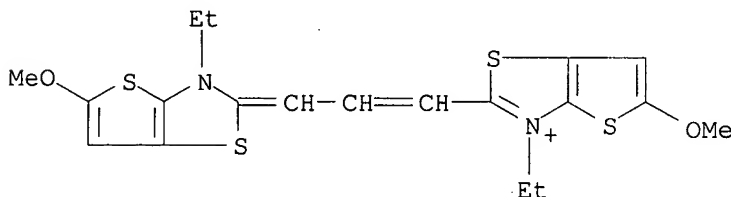
RN 56278-29-6 HCA

CN Thieno[2,3-d]thiazolium, 3-ethyl-2-[3-(3-ethylthieno[2,3-d]thiazol-2(3H)-ylidene)-1-propenyl]- (9CI) (CA INDEX NAME)



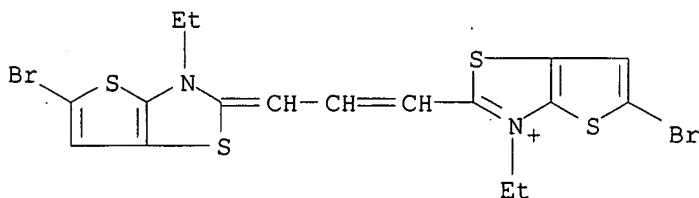
RN 67193-64-0 HCA

CN Thieno[2,3-d]thiazolium, 3-ethyl-2-[3-(3-ethyl-5-methoxythieno[2,3-d]thiazol-2(3H)-ylidene)-1-propenyl]-5-methoxy- (9CI) (CA INDEX NAME)



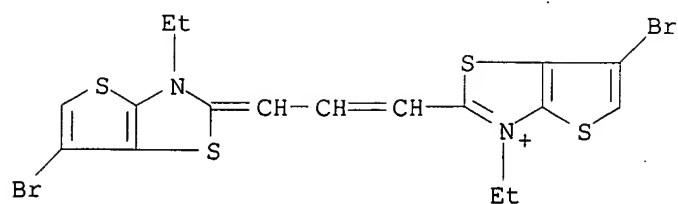
RN 67193-66-2 HCA

CN Thieno[2,3-d]thiazolium, 5-bromo-2-[3-(5-bromo-3-ethylthieno[2,3-d]thiazol-2(3H)-ylidene)-1-propenyl]-3-ethyl- (9CI) (CA INDEX NAME)



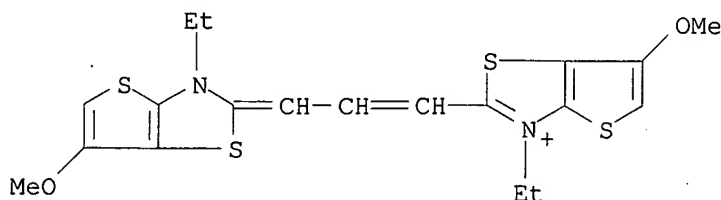
RN 67193-67-3 HCA

CN Thieno[2,3-d]thiazolium, 6-bromo-2-[3-(6-bromo-3-ethylthieno[2,3-d]thiazol-2(3H)-ylidene)-1-propenyl]-3-ethyl- (9CI) (CA INDEX NAME)



RN 67193-68-4 HCA

CN Thieno[2,3-d]thiazolium, 3-ethyl-2-[3-(3-ethyl-6-methoxythieno[2,3-d]thiazol-2(3H)-ylidene)-1-propenyl]-6-methoxy- (9CI) (CA INDEX NAME)



L53 ANSWER 13 OF 18 HCA COPYRIGHT 2003 ACS on STN

87:76321 Properties of symmetrical carbocyanines which are derivatives of 6-methoxy-4,5-benzo- and -4,5-(2'',3''-thieno)benzothiazoles. Moskalenko, Z. I.; Kudryavskaya, N. V. (USSR). Sb. Nauch. Tr. Vses. N.-i. i Proekt. In-t Khim.-fotogr. Prom-sti (23), 63-70 From: Ref. Zh., Khim. 1977, Abstr. No. 8N256 (Russian) 1976.

AB Title only translated.

CC 74-2 (Radiation Chemistry, Photochemistry, and Photographic Processes) Section cross-reference(s): 40

ST carbocyanine **dye** photog; aggregate carbocyanine **dye**IT Photography, **color**(thiacarbocyanine **dyes** for)

IT 63681-91-4D, deriv. 63681-92-5

RL: PRP (Properties)

(properties of)

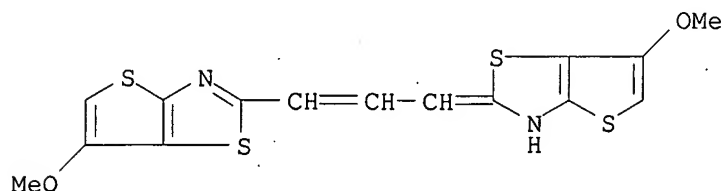
IT 63681-92-5

RL: PRP (Properties)

(properties of)

RN 63681-92-5 HCA

CN Thieno[2,3-d]thiazole, 6-methoxy-2-[3-(6-methoxythieno[2,3-d]thiazol-2(3H)-ylidene)-1-propenyl]- (9CI) (CA INDEX NAME)



L53 ANSWER 14 OF 18 HCA COPYRIGHT 2003 ACS on STN

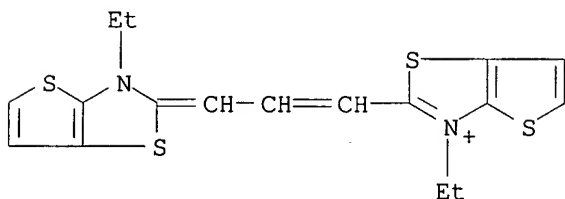
83:116915 Polymethine **dyes**, derivatives of 6-furo[2,3-b]pyridine.

Abramenko, P. I.; Zhiryakov, V. G. (Vses. Gos. Nauchno-Issled. Proekt.

Inst. Khim.-Fotogr. Prom., Moscow, USSR). Khimiya Geterotsiklicheskih

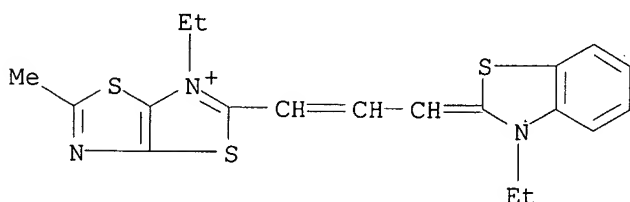
Soedinenii (4), 475-9 (Russian) 1975. CODEN: KGSSAQ. ISSN: 0132-6244.

- GI For diagram(s), see printed CA Issue.
- AB Carbocyanines I (X1 = O, S, CH:CH) and their 4-quinoline analogs, as well as the corresponding rhodanine dimethine merocyanines and (dimethylamino)styryl derivs. with X = O, S show a hypsochromic shift with respect to compds. with X = CH:CH. MO calcns. were performed for some of these compds. to explain the spectral data. The cyanines were prepd. by std. methods; e.g., 6-methylfuro[2,3-b]pyridine ethiodide [39853-79-7] was heated with 2-(.beta.-acetanilidovinyl)benzoxazole ethiodide [6992-73-0] in Ac2O contg. Et3N to give I (X = X1 = O) [56278-30-9] in 24% yield.
- CC 40-12 (Dyes, Fluorescent Whitening Agents, and Photosensitizers)
Section cross-reference(s): 22, 28
- ST furopyridine deriv cyanine **dye**; merocyanine **dye**
furopyridine rhodanine; styrylfuropyridinium salt **dye**;
carbocyanine furopyridine deriv; thienopyridine cyanine **dye**
- IT Ultraviolet and **visible** spectra
(of cyanines, MO calcn. of)
- IT **Dyes**, cyanine
(prepn. and MO calcns. of)
- IT **56278-29-6** 56295-94-4
RL: PRP (Properties)
(MO calcns. on)
- IT **56278-29-6**
RL: PRP (Properties)
(MO calcns. on)
- RN 56278-29-6 HCA
- CN Thieno[2,3-d]thiazolium, 3-ethyl-2-[3-(3-ethylthieno[2,3-d]thiazol-2(3H)-ylidene)-1-propenyl]- (9CI) (CA INDEX NAME)



- L53 ANSWER 15 OF 18 HCA COPYRIGHT 2003 ACS on STN
- 82:157806 Interaction of biscyanine **chromophores** from thiazolo[5,4-d]thiazole. Mikhailenko, F. A.; Ishchenko, I. I. (Inst. Org. Khim., Kiev, USSR). Ukrainskii Khimicheskii Zhurnal (Russian Edition), 40(12), 1331-3 (Russian) 1974. CODEN: UKZHAU. ISSN: 0041-6045.
- GI For diagram(s), see printed CA Issue.
- AB Thiazolothiazole biscyanine I [54906-92-2] absorbs at longer wavelength [.lambda.max (MeNO2) 729 nm] than the analogous benzobisthiazole biscyanine II [54998-68-4] (650 nm), whereas the monocyanine III [54939-09-2] absorbs in the same region (578 nm) as its benzobisthiazole analog. 3,6-Diethyl-2,5-dimethylthiazolo[5,4-d]thiazolium bis(tetrafluoroborate) [54906-90-0], the key intermediate in synthesis of I, was prepd. by condensation of isopropylidene malonate [2033-24-1] with 3-ethyl-5-methyl-2-(methylthio)thiazolo[5,4-d]thiazolium Me sulfate [54939-07-0], followed by hydrolysis, decarboxylation, and quaternization.
- CC 40-7 (Dyes, Fluorescent Whitening Agents, and Photosensitizers)
Section cross-reference(s): 28
- ST thiazolothiazole biscyanine **dye**; cyanine **dye**
thiazolothiazole; **chromophore** interaction thiazolothiazole

- biscyanine
 IT **Dyes**, cyanine
 (bis(carbocyanines), thiazolothiazole derivs., spectral comparison with benzobisthiazole derivs.)
 IT **Chromophores** and **Chromophoric** systems
 (cyanine interaction between, through thiazolothiazole nucleus)
 IT 54906-92-2P **54939-09-2P** 54998-68-4P
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (prepn. of)
 IT **54939-09-2P**
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (prepn. of)
 RN 54939-09-2 HCA
 CN Thiazolo[5,4-d]thiazolium, 3-ethyl-2-[3-(3-ethyl-2(3H)-benzothiazolylidene)-1-propenyl]-5-methyl-, iodide (9CI) (CA INDEX NAME)



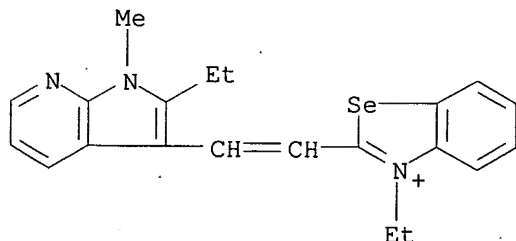
● I⁻

- L53 ANSWER 16 OF 18 HCA COPYRIGHT 2003 ACS on STN
 81:113650 Photographic sensitizers. Sato, Akira; Ogawa, Akira; Shiba, Keisuke; Hinata, Masanao (Fuji Photo Film Co., Ltd.). Ger. Offen. DE 2363216 **19740704**, 39 pp. (German). CODEN: GWXXBX.
 APPLICATION: DE 1973-2363216 19731219.
 GI For diagram(s), see printed CA Issue.
 AB The cyanines I (R = Me, or Et, etc.; R1 = H or Et; R2 = Me or Et; R3 = H or NO2; X = S, Se, CMe2, or NET; X- = I- or p-MeC6H4-SO3-) were used as photog. sensitizers giving direct-pos. emulsions of high sensitivity and max. d. and without remaining in the emulsion after development. Thus, a common chem. sensitized Ag(Cl,Br) emulsion contg. Pinakryptol Yellow and 8 times. 10-2 mole I (R = R2 = Me, R1 = Et, R3 = NO2, X = S, X- = p-MeC6H4SO3-) (II) had sensitivity 151, max. d. 3.1, min. d. 0.05, and d. of residual dye 0.06 vs. 100, 2.5, 0.08, and 0.08, resp., for an emulsion contg. I (R = Et, R1 = Ph, R2 = Me, R3 = NO2, X = S, X- = p-MeC6H4SO3-) instead of II.
 IC G03C
 CC 74-2 (Radiation Chemistry, Photochemistry, and Photographic Processes)
 IT 54189-19-4 **54189-20-7** **54189-21-8** **54189-22-9**
 54189-23-0 **54189-24-1** **54189-25-2** 54189-26-3
 54189-27-4 54189-28-5 **54189-29-6** 54189-30-9
54189-31-0 **54189-32-1** **54189-33-2** 54189-34-3
 54189-35-4 **54249-61-5** **54249-62-6** **54249-63-7**
 RL: TEM (Technical or engineered material use); USES (Uses)
 (photog. sensitizer, for direct-pos. emulsions)
 IT **54189-20-7** **54189-21-8** **54189-22-9**
54189-24-1 **54189-25-2** **54189-29-6**
54189-31-0 **54189-32-1** **54189-33-2**
54249-61-5 **54249-62-6** **54249-63-7**

RL: TEM (Technical or engineered material use); USES (Uses)
(photog. sensitizer, for direct-pos. emulsions)

RN 54189-20-7 HCA

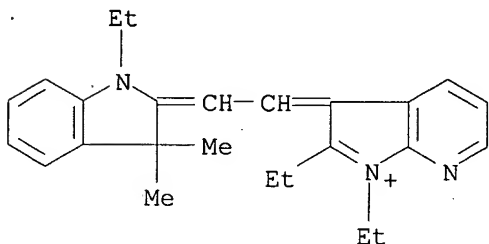
CN Benzoselenazolium, 3-ethyl-2-[2-(2-ethyl-1-methyl-1H-pyrrolo[2,3-b]pyridin-3-yl)ethenyl]-, iodide (9CI) (CA INDEX NAME)



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RN 54189-21-8 HCA

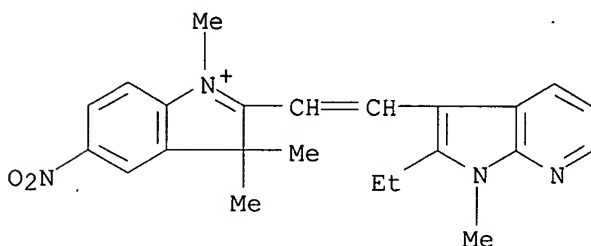
CN 3H-Pyrrolo[2,3-b]pyridinium, 1,2-diethyl-3-[(1-ethyl-1,3-dihydro-3,3-dimethyl-2H-indol-2-ylidene)ethylidene]-, iodide (9CI) (CA INDEX NAME)



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RN 54189-22-9 HCA

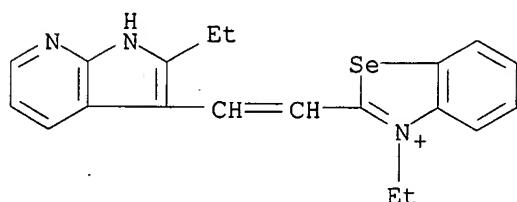
CN 3H-Indolium, 2-[2-(2-ethyl-1-methyl-1H-pyrrolo[2,3-b]pyridin-3-yl)ethenyl]-1,3,3-trimethyl-5-nitro-, iodide (9CI) (CA INDEX NAME)



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RN 54189-24-1 HCA

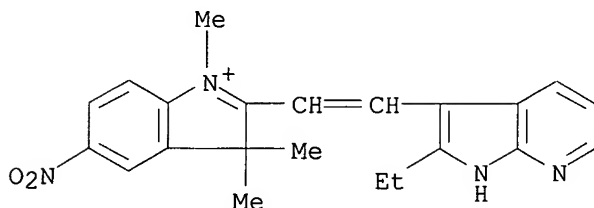
CN Benzoselenazolium, 3-ethyl-2-[2-(2-ethyl-1H-pyrrolo[2,3-b]pyridin-3-yl)ethenyl]-, iodide (9CI) (CA INDEX NAME)



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RN 54189-25-2 HCA

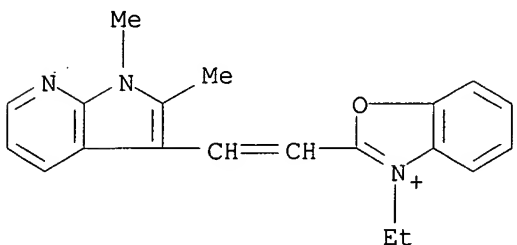
CN 3H-Indolium, 2-[2-(2-ethyl-1H-pyrrolo[2,3-b]pyridin-3-yl)ethenyl]-1,3,3-trimethyl-5-nitro-, iodide (9CI) (CA INDEX NAME)



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RN 54189-29-6 HCA

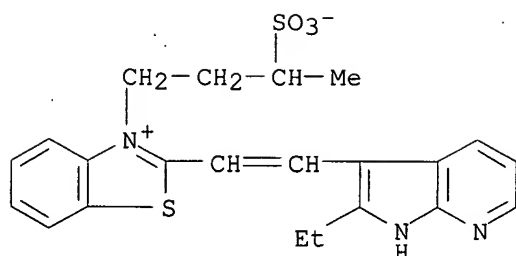
CN Benzoxazolium, 2-[2-(1,2-dimethyl-1H-pyrrolo[2,3-b]pyridin-3-yl)ethenyl]-3-ethyl-, iodide (9CI) (CA INDEX NAME)



● I⁻

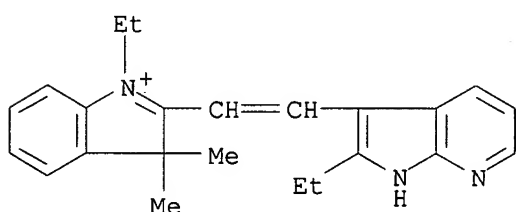
RN 54189-31-0 HCA

CN Benzothiazolium, 2-[2-(2-ethyl-1H-pyrrolo[2,3-b]pyridin-3-yl)ethenyl]-3-(3-sulfobutyl)-, inner salt (9CI) (CA INDEX NAME)



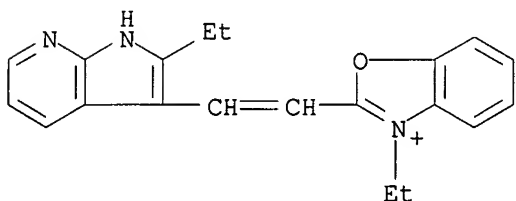
RN 54189-32-1 HCA

CN 3H-Indolium, 1-ethyl-2-[(2-ethyl-1H-pyrrolo[2,3-b]pyridin-3-yl)ethenyl]-3,3-dimethyl-, iodide (9CI) (CA INDEX NAME)

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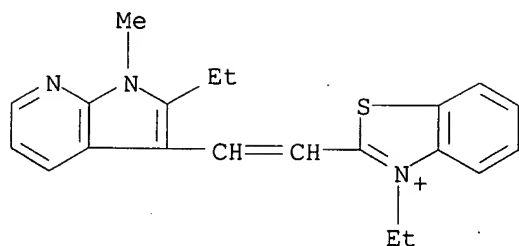
RN 54189-33-2 HCA

CN Benzoxazolium, 3-ethyl-2-[2-(2-ethyl-1H-pyrrolo[2,3-b]pyridin-3-yl)ethenyl]-, iodide (9CI) (CA INDEX NAME)

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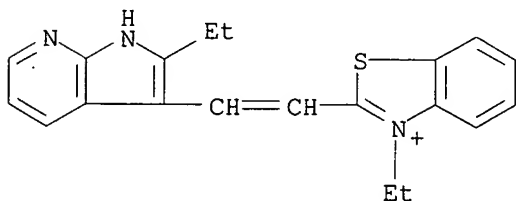
RN 54249-61-5 HCA

CN Benzothiazolium, 3-ethyl-2-[2-(2-ethyl-1-methyl-1H-pyrrolo[2,3-b]pyridin-3-yl)ethenyl]-, iodide (9CI) (CA INDEX NAME)

● I⁻

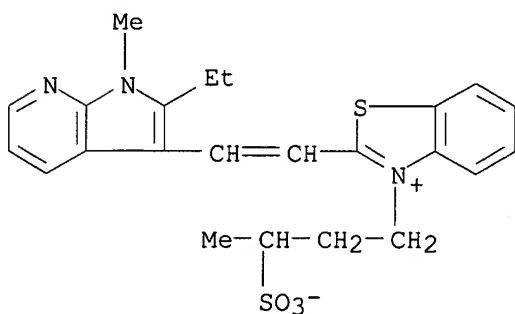
RN 54249-62-6 HCA

CN Benzothiazolium, 3-ethyl-2-[2-(2-ethyl-1H-pyrrolo[2,3-b]pyridin-3-yl)ethenyl]-, iodide (9CI) (CA INDEX NAME)

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RN 54249-63-7 HCA

CN Benzothiazolium, 2-[2-(2-ethyl-1-methyl-1H-pyrrolo[2,3-b]pyridin-3-yl)ethenyl]-3-(3-sulfobutyl)-, inner salt (9CI) (CA INDEX NAME)



L53 ANSWER 17 OF 18 HCA COPYRIGHT 2003 ACS on STN

73:110914 Cyanine **dyes** and their intermediates. Mee, John D.; Heseltine, Donald W. (Eastman Kodak Co.). Fr. FR 1565912 19690502, 18 pp. (French). CODEN: FRXXAK. PRIORITY: US 19670517.

GI For diagram(s), see printed CA Issue.

AB Compds. of the general formula I, (R = S or CMe₂, R₁ = Me or Et) and II are treated with 2-Me derivs. of heterocycles to give III and IV (R₂ = S, CMe₂; R₃ = CH, N; R₄ = Me, Et; and R₅ = H, NO₂). Thus, I (R = S, R₁ = Et)

was prepd. from 3-ethyl-2-methyl-6-nitrobenzothiazolium p-toluenesulfonate and DMF in POCl₃ and treated with 1,2,3,3-tetramethylpyrrolo[2,3-b]pyridinium p-toluenesulfonate to give III (R = S, R₁ = Et, R₂ = CMe₂, R₃ = N, R₄ = Me, R₅ = H, X = Br). Two addnl. III and 3 IV were prepd.

IC C09B; C07D

CC 40 (Dyes, Fluorescent Whitening Agents, and Photosensitizers)

ST formylmethylene heterocyclics **dye** intermediates; heterocyclics formylmethylene **dye** intermediates; cyanine **dyes**; carbocyanine **dyes**

IT **Dyes**, cyanine (nitrogen heterocyclic derivs.)

IT 29346-58-5P 29346-59-6P 29346-60-9P 29346-61-0P **29346-62-1P**

29346-64-3P 29395-23-1P 29395-24-2P 34273-80-8P

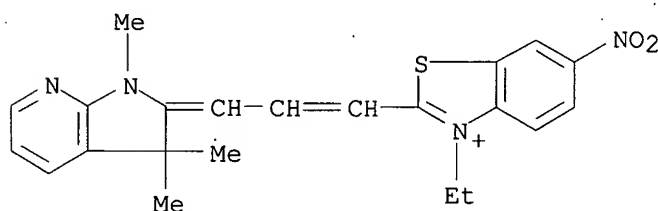
RL: IMF (Industrial manufacture); PREP (Preparation) (prepn. of)

IT **29346-62-1P 29346-64-3P**

RL: IMF (Industrial manufacture); PREP (Preparation) (prepn. of)

RN 29346-62-1 HCA

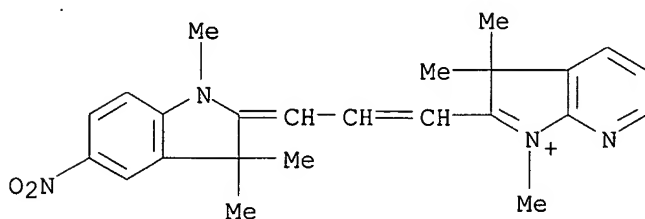
CN Benzothiazolium, 2-[3-(1,3-dihydro-1,3,3-trimethyl-2H-pyrrolo[2,3-b]pyridin-2-ylidene)propenyl]-3-ethyl-6-nitro-, bromide (8CI) (CA INDEX NAME)



● Br

RN 29346-64-3 HCA

CN 3H-Pyrrolo[2,3-b]pyridinium, 2-[3-(1,3-dihydro-1,3,3-trimethyl-5-nitro-2H-indol-2-ylidene)-1-propenyl]-1,3,3-trimethyl-, iodide (9CI) (CA INDEX NAME)



● I⁻

emulsions containing them. Litzerman, Roberta A.; Mee, John D.; Heseltine, Donald W. (Eastman Kodak Co.). Fr. FR 1520819 **19680412**, 11 pp. (French). CODEN: FRXXAK. PRIORITY: US 19660311 - 19670117 19670117.

GI For diagram(s), see printed CA Issue.

AB In-creases in the relative blue sensitivity are obtained by the addn. of I, II, and III compds. to emulsions. Thus, a photographic element is prepd. from a compn. contg. a gelatin-Ag(Br,I) emulsion (I:-Br- molar ratio 25:975), KBr, KI, AgNO₃, (H₂N)2CSO₂ (fogging agent), and KAuC1₂. I(R = Me, R₁ = R₂ = H, A = Ph) (IV) is added to the compn. at 0.87 millimole IV/mole AgX, the emulsion is applied on a support (1.08 g. Ag/m.2, 4.32 g. gelatin/m.2), and the element is exposed and developed to give relative blue sensitivity 210 as compared to 126 for V(control). Similar results are obtained with III(R = Me, R₁ = H) (VI), II(A = Ph, X = CMe₂, R = R₂ = Me, R₁ = R₃ = R₄ = H, Y = iodine) (VII), II(A = Ph, X = S, R = Me, R₁ = R₃ = R₄ = H, R₂ = Et, Y = iodine) (VIII), and II(A = Ph, X = S, R = R₂ = Me, R₁ = R₄ = H, R₃ = Cl, Y = p-MeC₆H₄SO₃) (IX). A mixt. of 1.12 g. 1-methyl-2-(3-pyridyl)indole - 3-carboxaldehyde, 1.98 g. 3-ethyl-2-methyl-6-nitrobenzothiazolium p-toluenesulfonate, 0.95 g. p-MeC₆H₄SO₃H, and 10 ml. Ac₂O is refluxed for 5 min. to give 63% II.p-MeC₆H₄SO₃H (A = 3-pyridyl, X = R, R = Me, R₁ = R₃ = R₄ = H, R₂ = Et, Y = p-MeC₆H₄SO₃). Also prepd. are the following compds.: I.HI(A = 3-pyridyl, R = Me, R₁ = R₂ = H), m. 223.degree. (decompn.); II[R = R₂ = Me, (R₁R₄ =) benzo, A = Ph, X = S, R₃ = H, Y = p-MeC₆H₄SO₃], m. 287-9.degree. (decompn.); I[A = Ph, R = Me, (R₁R₂ =) benzo], m. 293-4.degree. (decompn.); II[A = Ph, X = S, (RR₁ =) (CH₂)₃, R₂ = Et, R₃ = R₄ = H, Y = p-MeC₆H₄SO₃], m. 254-5.degree. (decompn.); I[A = Ph, (RR₁ =) (CH₂)₃, R₂ = H], m. 230-1.degree. (decompn.); III[(RR₁ =) (CH₂)₃], m. 283-4.degree. (decompn.); IV, m. 248-9.degree. (decompn.); VIII; VII, m. 252-6.degree. (decompn.); IX; VI, m. 252-6.degree. (decompn.); 1-methyl-2-(3-pyridyl)indole, m. 79-81.degree.; 1-methyl-2-(3-pyridyl)indole-3-carboxaldehyde, m. 146.degree.; 1-methyl-2-phenylbenz[g]indole, m. 138.5-9.5.degree.; and 1-methyl-2-phenylbenz[g]indole - 3-carboxaldehyde, m. 170-1.degree.. 1,3,3-Trimethyl-2-methylene - 2,3-dihydropyrrolo[2,3-b]pyridine (1.74 g.) is treated with 2.45 g. (EtO)2CHOAc and HClO₄ to give 44% 1,1',3,3,3',3'-hexamethylpyrrolo[2,3-b]pyridocarbocyanine perchlorate, m. 256-7.degree. (decompn.); 1,1',3,3,3',3' - hexamethyl - 5,5' - dinitroindocarbocyanine p - toluenesulfonate [m. 297-8.degree. (decompn.)] is prepd. from 1,2,3,3-tetramethyl-5-nitro - 3H-indolium p-toluenesulfonate and (MeO)2CHCH₂OAc.

IC C09B; G03C

CC 40 (Dyes, Fluorescent Whitening Agents, and Photosensitizers)

IT 4H-Pyrrolo[3,2,1-ij]quinoline, derivs.

RL: USES (Uses)

(as cyanine **dyes**)

IT 23768-16-3P 23768-17-4P 23768-18-5P 23768-19-6P 23768-20-9P

23768-21-0P 23768-22-1P 23768-23-2P 23768-24-3P 23768-25-4P

23768-30-1P 23768-31-2P 23779-65-9P 23779-66-0P

23779-67-1P 23797-07-1P 25052-61-3P 25078-74-4P

RL: IMF (Industrial manufacture); PREP (Preparation)

(prepn. of)

IT **23768-30-1P**

RL: IMF (Industrial manufacture); PREP (Preparation)

(prepn. of)

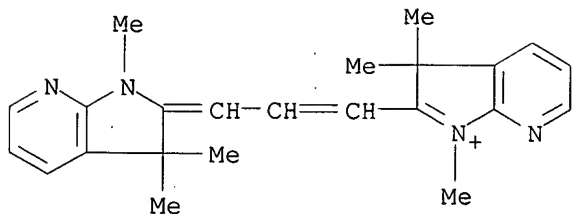
RN 23768-30-1 HCA

CN 3H-Pyrrolo[2,3-b]pyridinium, 2-[3-(1,3-dihydro-1,3,3-trimethyl-2H-pyrrolo[2,3-b]pyridin-2-ylidene)propenyl]-1,3,3-trimethyl-, perchlorate (8CI) (CA INDEX NAME)

CM 1

CRN 47540-28-3

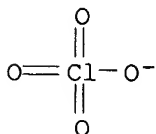
CMF C23 H27 N4



CM 2

CRN 14797-73-0

CMF Cl O4



=> d L55 1-35 ti

L55 ANSWER 1 OF 35 HCA COPYRIGHT 2003 ACS on STN

TI **Silver halide** color photographic film and paper comprising sensitizing methine dye

L55 ANSWER 2 OF 35 HCA COPYRIGHT 2003 ACS on STN

TI Color photographic emulsion with improved solution storage stability and color photographic paper with high sensitivity and image graininess

L55 ANSWER 3 OF 35 HCA COPYRIGHT 2003 ACS on STN

TI Photographic **silver halide** materials, photographic heat-developable materials and image formation process by heat development

L55 ANSWER 4 OF 35 HCA COPYRIGHT 2003 ACS on STN

TI Spectral-sensitizing dye for **silver halide** photographic material

L55 ANSWER 5 OF 35 HCA COPYRIGHT 2003 ACS on STN

TI Treatment of wastewaters containing **silver halide** photographic materials

L55 ANSWER 6 OF 35 HCA COPYRIGHT 2003 ACS on STN

TI IR-sensitized **silver halide** photographic material suitable for rapid processing

L55 ANSWER 7 OF 35 HCA COPYRIGHT 2003 ACS on STN

TI High-sensitivity **silver halide** photographic photosensitive material

- L55 ANSWER 8 OF 35 HCA COPYRIGHT 2003 ACS on STN
TI Method for processing **silver halide** photographic material
- L55 ANSWER 9 OF 35 HCA COPYRIGHT 2003 ACS on STN
TI **Silver halide** photographic material with improved antistatic characteristics
- L55 ANSWER 10 OF 35 HCA COPYRIGHT 2003 ACS on STN
TI Photographic material with superior antistatic properties and suppressed residual color
- L55 ANSWER 11 OF 35 HCA COPYRIGHT 2003 ACS on STN
TI Method for processing **silver halide** photographic material containing dye
- L55 ANSWER 12 OF 35 HCA COPYRIGHT 2003 ACS on STN
TI Heat-developable photosensitive material giving images with improved sharpness
- L55 ANSWER 13 OF 35 HCA COPYRIGHT 2003 ACS on STN
TI **Silver halide** photographic material
- L55 ANSWER 14 OF 35 HCA COPYRIGHT 2003 ACS on STN
TI **Silver halide** photographic material containing dyes
- L55 ANSWER 15 OF 35 HCA COPYRIGHT 2003 ACS on STN
TI Method for processing **silver halide** photographic light-sensitive material
- L55 ANSWER 16 OF 35 HCA COPYRIGHT 2003 ACS on STN
TI **Silver halide** photographic material with antistatic layer
- L55 ANSWER 17 OF 35 HCA COPYRIGHT 2003 ACS on STN
TI **Silver halide** photographic materials, and processing method
- L55 ANSWER 18 OF 35 HCA COPYRIGHT 2003 ACS on STN
TI Processing of **silver halide** photographic material for printing plates
- L55 ANSWER 19 OF 35 HCA COPYRIGHT 2003 ACS on STN
TI Rapid processing of **silver halides** photographic materials
- L55 ANSWER 20 OF 35 HCA COPYRIGHT 2003 ACS on STN
TI **Silver halide** photographic material
- L55 ANSWER 21 OF 35 HCA COPYRIGHT 2003 ACS on STN
TI **Silver halide** photographic photosensitive materials
- L55 ANSWER 22 OF 35 HCA COPYRIGHT 2003 ACS on STN
TI **Silver halide** color photographic photosensitive materials
- L55 ANSWER 23 OF 35 HCA COPYRIGHT 2003 ACS on STN
TI **Silver halide** color photographic photosensitive materials

- L55 ANSWER 24 OF 35 HCA COPYRIGHT 2003 ACS on STN
TI **Silver halide** color photographic photosensitive materials
- L55 ANSWER 25 OF 35 HCA COPYRIGHT 2003 ACS on STN
TI Photothermographic material
- L55 ANSWER 26 OF 35 HCA COPYRIGHT 2003 ACS on STN
TI **Silver halide** photographic photosensitive material
- L55 ANSWER 27 OF 35 HCA COPYRIGHT 2003 ACS on STN
TI Photographic element
- L55 ANSWER 28 OF 35 HCA COPYRIGHT 2003 ACS on STN
TI **Silver halide** photographic photosensitive materials
- L55 ANSWER 29 OF 35 HCA COPYRIGHT 2003 ACS on STN
TI Photographic element
- L55 ANSWER 30 OF 35 HCA COPYRIGHT 2003 ACS on STN
TI Dyes substituted in a polymethylene chain, derivatives of thieno- and benzoselenophenothiazoles
- L55 ANSWER 31 OF 35 HCA COPYRIGHT 2003 ACS on STN
TI Method of making **silver halide** photographic emulsion
- L55 ANSWER 32 OF 35 HCA COPYRIGHT 2003 ACS on STN
TI Dyes for direct positive emulsions
- L55 ANSWER 33 OF 35 HCA COPYRIGHT 2003 ACS on STN
TI Direct-positive **silver halide** photographic photosensitive materials
- L55 ANSWER 34 OF 35 HCA COPYRIGHT 2003 ACS on STN
TI 5,6-Dimethylthieno[2,3-d]thiazolocarbo-cyanine dyes as spectral sensitizers of **silver halide** emulsions in the red region
- L55 ANSWER 35 OF 35 HCA COPYRIGHT 2003 ACS on STN
TI Cyanine and merocyanine dyes derived from 4,4,5-trimethyl-4,5-dihydro-6H-thieno[2,3-b]pyrrole or 5,6,6-trimethyl-5,6-dihydro-4H-thieno[3,2-b]pyrrole

=> d L55 4,12,20,24,30,34,35 cbib abs hitind hitstr

- L55 ANSWER 4 OF 35 HCA COPYRIGHT 2003 ACS on STN
131:80685 Spectral-sensitizing dye for **silver halide** photographic material. Haino, Kozo; Tanaka, Akira; Doi, Kunihiro (Mitsubishi Paper Mills, Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 11160826 A2 19990618 Heisei, 13 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1998-30829 19980213. PRIORITY: JP 1997-259151 19970925.
- AB The spectral-sensitizing dye for **silver halide** photog. material contains pyrido[2,3-d]oxazole cyclics. The dye generates little residual color nor fogging and provides the high sensitivity.
- IC ICM G03C001-12
ICS C09B023-00
- CC 74-2 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
- IT Photographic sensitizers
(dye for **silver halide** photog. material)

IT 228862-26-8P 228862-27-9P 228870-55-1P 228870-56-2P 228870-58-4P
 228870-59-5P 228870-60-8P 228870-61-9P 228870-62-0P 228870-63-1P
 228870-64-2P 228870-65-3P 228870-66-4P 228870-67-5P 228870-69-7P
 228870-71-1P 228870-73-3P 228870-74-4P 228870-75-5P 228870-76-6P
 228870-77-7P 228870-78-8P 228870-79-9P 228870-80-2P 228870-82-4P
 228870-83-5P 228870-84-6P 228870-85-7P **228870-86-8P**
228870-87-9P

RL: PNU (Preparation, unclassified); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(spectral-sensitizing dye for **silver halide** photog. material)

IT 62-53-3, Benzenamine, reactions 74-88-4, reactions 75-03-6, Ethyl iodide 75-15-0, Carbondisulfide, reactions 77-78-1, Dimethylsulfate 78-39-7, Triethyl ortho acetate 80-48-8, Methyl p-Toluenesulfonate 108-24-7, Acetyl anhydride 108-39-4, reactions 122-51-0, Ethyl orthoformate 1120-71-4, 1,3-Propanesultone 5718-83-2, 3-Carboxymethylrhodanine 16867-03-1, 2-Amino-3-hydroxypyridine 38292-40-9, 3-Formyl-1,2-dimethylindole 42588-57-8, 3-Ethoxymethacrolein 55425-51-9 76869-75-5, 1-[2-(2-Ethoxycarbonylethanesulfonyl)ethyl]-3-phenyl-2-thiohydantoin 98984-15-7, 3-Carboxymethyl-5-n-propylidene rhodanine 99987-14-1 228870-54-0, 3-Ethyl-5,6-dimethyl-2-(3,5,5-trimethyl-2-cyclohexene-1-ylidene)methylbenzothiazolium iodide

RL: RCT (Reactant); RACT (Reactant or reagent)

(spectral-sensitizing dye for **silver halide** photog. material)

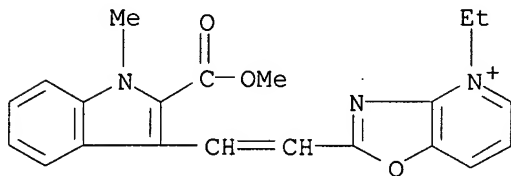
IT **228870-86-8P 228870-87-9P**

RL: PNU (Preparation, unclassified); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(spectral-sensitizing dye for **silver halide** photog. material)

RN 228870-86-8 HCA

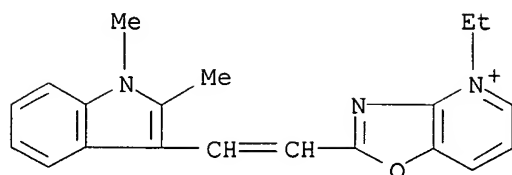
CN Oxazolo[4,5-b]pyridinium, 4-ethyl-2-[2-(2-(methoxycarbonyl)-1-methyl-1H-indol-3-yl)ethenyl]-, iodide (9CI) (CA INDEX NAME)



● I⁻

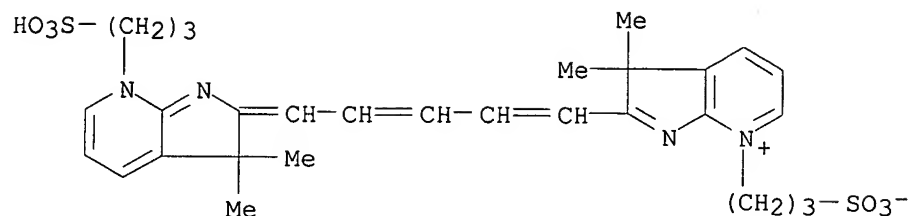
RN 228870-87-9 HCA

CN Oxazolo[4,5-b]pyridinium, 2-[2-(1,2-dimethyl-1H-indol-3-yl)ethenyl]-4-ethyl-, iodide (9CI) (CA INDEX NAME)



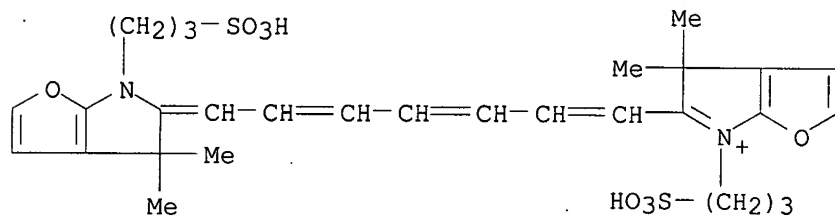
● I⁻

- L55 ANSWER 12 OF 35 HCA COPYRIGHT 2003 ACS on STN
 116:265688 Heat-developable photosensitive material giving images with improved sharpness. Suda, Yoshihiko; Ohayashi, Keiji; Usagawa, Yasushi (Konica Co., Japan). Jpn. Kokai Tokkyo Koho JP 03135553 A2 19910610 Heisei, 32 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1989-274435 19891020.
- AB The title material, comprising a support having thereon photosensitive **silver halide**, a reducing agent and/or a precursor of a reducing agent, and a binder, contains least one dye selected from a group of hepta- and nonamethine cyanine dyes which have at least two groups having one or more CH₂CH₂OR (R = H, alkyl) radicals or are pyrrolopyridine, thienopyrrole rings, etc., each of the said pyrrolopyridine or thienopyrrole dyes has at least two acidic groups. The use of the title material gives images with improved sharpness.
- IC ICM G03C008-40
 CC 74-7 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
 Section cross-reference(s): 41
- IT 126829-26-3 126854-12-4 131033-84-6 131033-85-7
 139390-68-4 139412-06-9 139412-07-0 139412-08-1
 141138-36-5 141631-69-8
 RL: USES (Uses)
 (dye, in heat-developable photosensitive material)
- IT 130293-56-0P 131033-77-7P 131033-79-9P 131033-81-3P
 131033-83-5P
 RL: PREP (Preparation)
 (prepn. of, as dye for heat-developable photosensitive material)
- IT 126829-26-3 139412-07-0 139412-08-1
 141138-36-5
 RL: USES (Uses)
 (dye, in heat-developable photosensitive material)
- RN 126829-26-3 HCA
 CN 3H-Pyrrolo[2,3-b]pyridinium, 2-[7-[3,7-dihydro-3,3-dimethyl-7-(3-sulfopropyl)-2H-pyrrolo[2,3-b]pyridin-2-ylidene]-1,3-pentadienyl]-3,3-dimethyl-7-(3-sulfopropyl)-, inner salt, sodium salt (9CI) (CA INDEX NAME)



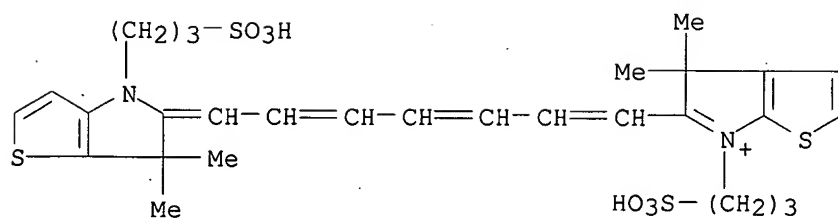
● Na

RN 139412-07-0 HCA
 CN 4H-Furo[2,3-b]pyrrolium, 5-[7-[4,6-dihydro-4,4-dimethylsulfo-6-(3-sulfopropyl)-5H-furo[2,3-b]pyrrol-5-ylidene]-1,3,5-heptatrienyl]-4,4-dimethylsulfo-6-(3-sulfopropyl)-, inner salt, trisodium salt (9CI) (CA INDEX NAME)

D1-SO₃⁻D1-SO₃H

●3 Na

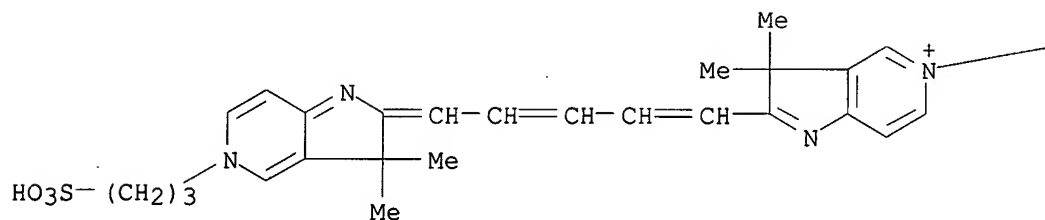
RN 139412-08-1 HCA
 CN 6H-Thieno[3,2-b]pyrrolium, 5-[7-[4,6-dihydro-6,6-dimethylsulfo-4-(3-sulfopropyl)-5H-thieno[3,2-b]pyrrol-5-ylidene]-1,3,5-heptatrienyl]-6,6-dimethylsulfo-4-(3-sulfopropyl)-, inner salt, trisodium salt (9CI) (CA INDEX NAME)

D1-SO₃⁻D1-SO₃H

● 3 Na

RN 141138-36-5 HCA
 CN 3H-Pyrrolo[3,2-c]pyridinium, 2-[5-[3,5-dihydro-3,3-dimethylsulfo-5-(3-sulfopropyl)-2H-pyrrolo[3,2-c]pyridin-2-ylidene]-1,3-pentadienyl]-3,3-dimethylsulfo-5-(3-sulfopropyl)-, inner salt, trisodium salt (9CI) . (CA INDEX NAME)

PAGE 1-A

D1-SO₃⁻D1-SO₃H

● 3 Na

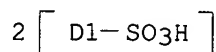
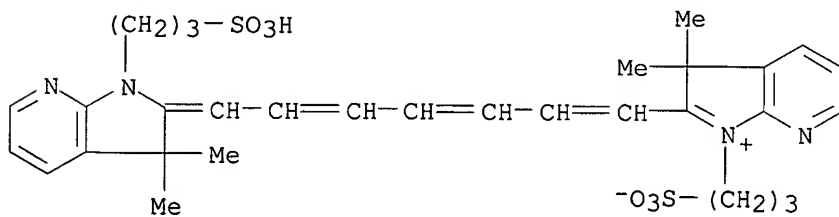
PAGE 1-B

— (CH₂)₃-SO₃H

IT 130293-56-0P
 RL: PREP (Preparation)

(prepn. of, as dye for heat-developable photosensitive material)

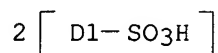
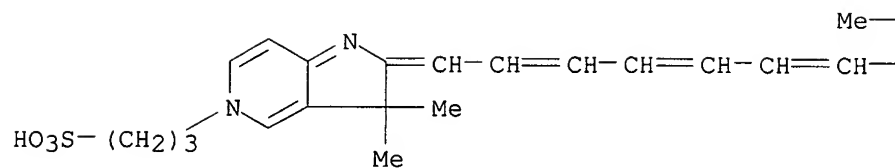
RN 130293-56-0 HCA
 CN 3H-Pyrrolo[2,3-b]pyridinium, 2-[7-[1,3-dihydro-3,3-dimethylsulfo-1-(3-sulfopropyl)-2H-pyrrolo[2,3-b]pyridin-2-ylidene]-1,3,5-heptatrienyl]-3,3-dimethylsulfo-1-(3-sulfopropyl)-, inner salt, tripotassium salt (9CI) (CA INDEX NAME)



● 3 K

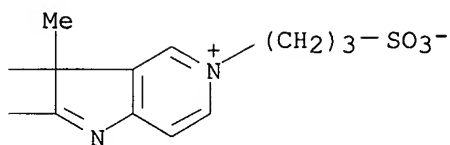
L55 ANSWER 20 OF 35 HCA COPYRIGHT 2003 ACS on STN
 112:207782 **Silver halide** photographic material. Usagawa, Yasushi; Kagawa, Nobuaki; Yoshida, Kazuhiro (Konica Co., Japan). Eur. Pat. Appl. EP 341958 A2 **19891115**, 40 pp. DESIGNATED STATES: R: DE, GB, IT. (English). CODEN: EPXXDW. APPLICATION: EP 1989-304633 19890508. PRIORITY: JP 1988-110848 19880507; JP 1988-124453 19880520.
 AB A **Ag halide** photog. material is described having a hydrophilic colloidal layer contg. .gtoreq.1 cyanine dye with a 3H-pyrrolopyridine, 4H-thienopyrrole, 6H-thienopyrrole, 4H-fuopyrrole or 6H-fuopyrrole nucleus which has in its dye mol. .gtoreq.2 acid groups or .gtoreq.2 substituents each having .gtoreq.1 -CH2CH2OR group [R = H, alkyl]. The photog. material has improved sensitivity to IR radiation and produces images with high aging stability.
 IC ICM G03C001-84
 ICS G03C001-20; G03C001-26
 CC 74-2 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
 IT 126691-61-0 **126691-62-1** **126691-63-2** 126691-64-3
 126726-71-4 126726-72-5 **126734-19-8**
 126758-46-1 **126829-19-4** 126829-20-7
 126829-26-3 126829-27-4 **126829-28-5** 126854-12-4
 RL: TEM (Technical or engineered material use); USES (Uses) (photog. material contg., IR-sensitive)
 IT **126691-62-1** **126691-63-2** **126726-71-4**
 126734-19-8 126758-46-1 **126829-19-4**
 126829-26-3 126829-28-5
 RL: TEM (Technical or engineered material use); USES (Uses) (photog. material contg., IR-sensitive)
 RN 126691-62-1 HCA
 CN 3H-Pyrrolo[3,2-c]pyridinium, 2-[7-[3,5-dihydro-3,3-dimethylsulfo-5-(3-sulfopropyl)-2H-pyrrolo[3,2-c]pyridin-2-ylidene]-1,3,5-heptatrienyl]-3,3-dimethylsulfo-5-(3-sulfopropyl)-, inner salt, trisodium salt (9CI) (CA INDEX NAME)

PAGE 1-A

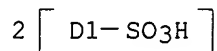
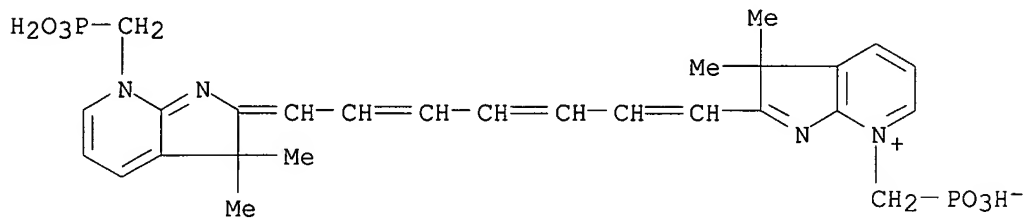


● 3 Na

PAGE 1-B



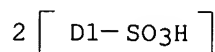
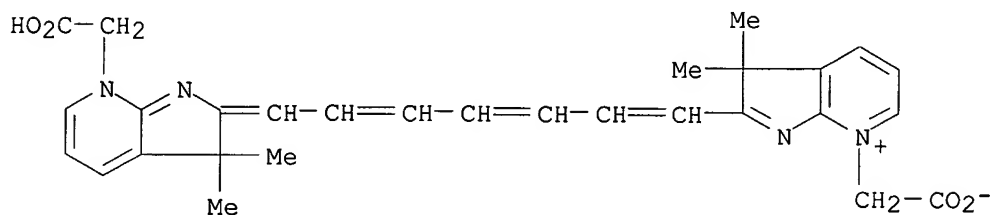
RN 126691-63-2 HCA
 CN 3H-Pyrrolo[2,3-b]pyridinium, 2-[7-[3,7-dihydro-3,3-dimethyl-7-(phosphonomethyl)sulfo-2H-pyrrolo[2,3-b]pyridin-2-ylidene]-1,3,5-heptatrienyl]-3,3-dimethyl-7-(phosphonomethyl)sulfo-, inner salt, monosodium salt (9CI) (CA INDEX NAME)



● Na

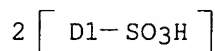
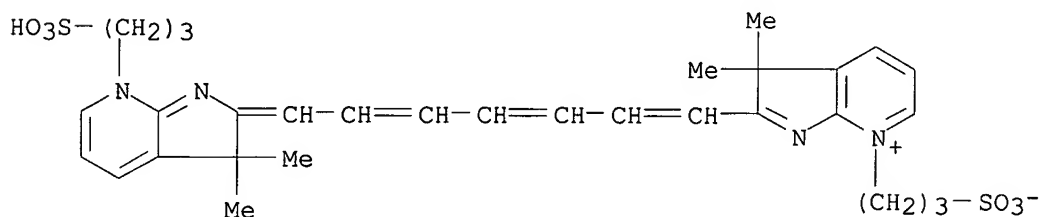
RN 126726-71-4 HCA
 CN 3H-Pyrrolo[2,3-b]pyridinium, 7-(carboxymethyl)-2-[7-[7-(carboxymethyl)-3,7-

dihydro-3,3-dimethylsulfo-2H-pyrrolo[2,3-b]pyridin-2-ylidene]-1,3,5-heptatrienyl]-3,3-dimethylsulfo-, inner salt, monopotassium salt (9CI)
(CA INDEX NAME)



● K

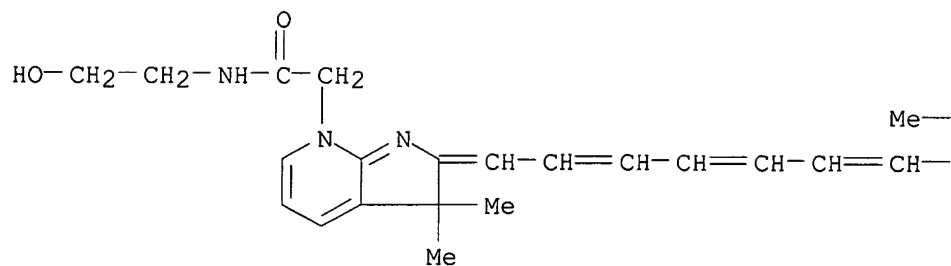
RN 126734-19-8 HCA
CN 3H-Pyrrolo[2,3-b]pyridinium, 2-[7-[3,7-dihydro-3,3-dimethylsulfo-7-(3-sulfopropyl)-2H-pyrrolo[2,3-b]pyridin-2-ylidene]-1,3,5-heptatrienyl]-3,3-dimethylsulfo-7-(3-sulfopropyl)-, inner salt, trisodium salt (9CI) (CA INDEX NAME)



● 3 Na

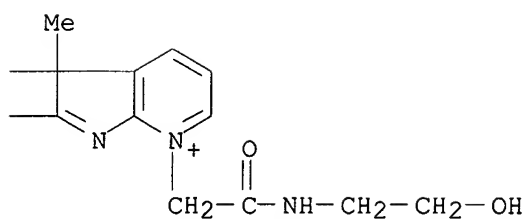
RN 126758-46-1 HCA
CN 3H-Pyrrolo[2,3-b]pyridinium, 2-[7-[3,7-dihydro-7-[2-[(2-hydroxyethyl)amino]-2-oxoethyl]-3,3-dimethyl-2H-pyrrolo[2,3-b]pyridin-2-ylidene]-1,3,5-heptatrienyl]-7-[2-[(2-hydroxyethyl)amino]-2-oxoethyl]-3,3-dimethylsulfo-, inner salt, monosodium salt (9CI) (CA INDEX NAME)

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D1-SO₃⁻

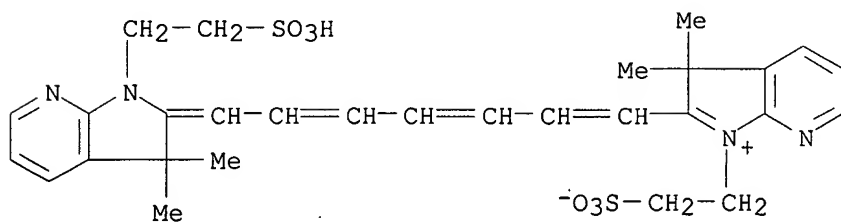
● Na

PAGE 1-B



RN 126829-19-4 HCA

CN 3H-Pyrrolo[2,3-b]pyridinium, 2-[7-[1,3-dihydro-3,3-dimethyl-1-(2-sulfoethyl)-2H-pyrrolo[2,3-b]pyridin-2-ylidene]-1,3,5-heptatrienyl]-3,3-dimethyl-1-(2-sulfoethyl)-, inner salt, potassium salt (9CI) (CA INDEX NAME)

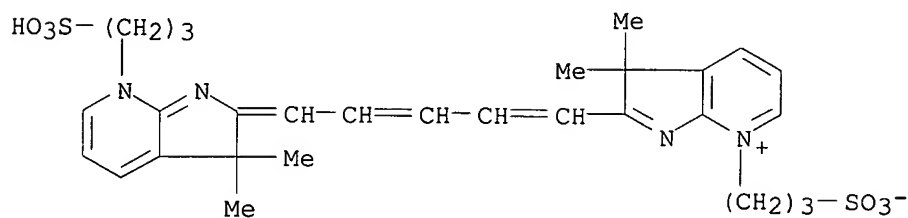


K

RN 126829-26-3 HCA

CN 3H-Pyrrolo[2,3-b]pyridinium, 2-[7-[3,7-dihydro-3,3-dimethyl-7-(3-

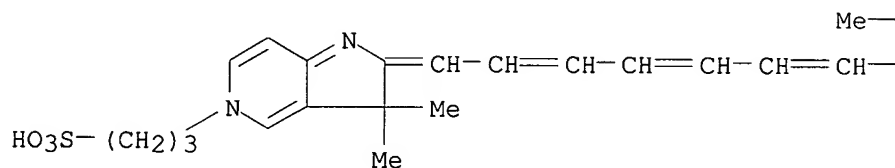
sulfopropyl)-2H-pyrrolo[2,3-b]pyridin-2-ylidene]-1,3-pentadienyl]-3,3-dimethyl-7-(3-sulfopropyl)-, inner salt, sodium salt (9CI) (CA INDEX NAME)



● Na

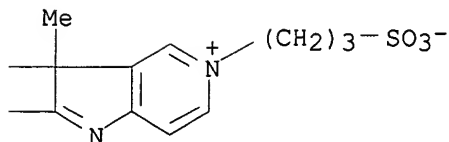
RN 126829-28-5 HCA
 CN 3H-Pyrrolo[3,2-c]pyridinium, 2-[7-[3,5-dihydro-3,3-dimethyl-5-(3-sulfopropyl)-2H-pyrrolo[3,2-c]pyridin-2-ylidene]-1,3,5-heptatrienyl]-3,3-dimethyl-5-(3-sulfopropyl)-, inner salt, sodium salt (9CI) (CA INDEX NAME)

PAGE 1-A



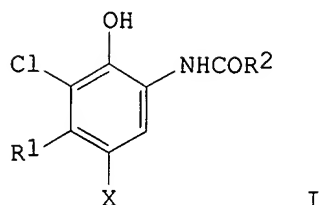
● Na

PAGE 1-B



L55 ANSWER 24 OF 35 HCA COPYRIGHT 2003 ACS on STN
 107:106159 **Silver halide** color photographic photosensitive materials. Usagawa, Yasushi; Takahashi, Nensho; Ishikawa, Hisashi; Yamashita, Kiyoshi (Konishiroku Photo Industry Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 61277949 A2 **19861208** Showa, 30 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1985-119363 19850601.

GI



AB The claimed photog. materials contain telluazole deriv. sensitizers and acylaminochlorophenol deriv. cyan couplers I (R₁ = C2-4 alkyl; R₂ = ballast group; X = H, a group released during coupling reaction). The photog. materials show good storage stability.

IC ICM G03C007-34

ICS G03C001-12; G03C007-26

ICA C07D421-06; C07D517-04; C07D517-06

ICI C07D421-06, C07D263-00, C07D293-00; C07D421-06, C07D277-00, C07D293-00

CC 74-2 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

Section cross-reference(s): 41

IT	102365-43-5	108285-70-7	108285-77-4	108285-81-0	108285-83-2
	108285-99-0	108286-23-3	108286-26-6	108286-27-7	108286-28-8
	108286-34-6	108410-79-3	108464-91-1	108464-93-3	108464-94-4
	108464-95-5	108464-98-8	108465-09-4	108465-25-4	108465-26-5
	108497-53-6	108497-61-6	108770-21-4	108802-01-3	108802-02-4
	109057-17-2	110126-74-4	110126-75-5	110126-76-6	
	110126-77-7				

RL: USES (Uses)

(photog. dye sensitizer)

IT **109057-17-2**

RL: USES (Uses)

(photog. dye sensitizer)

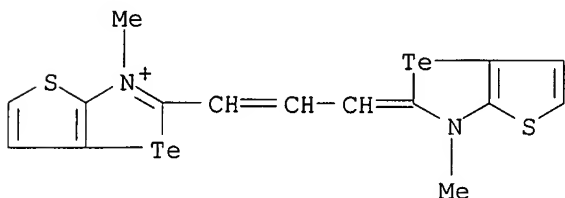
RN 109057-17-2 HCA

CN Thieno[2,3-d]tellurazolium, 3-methyl-2-[3-(3-methylthieno[2,3-d]tellurazol-2(3H)-ylidene)-1-propenyl]-, salt with trifluoromethanesulfonic acid (1:1) (9CI) (CA INDEX NAME)

CM 1

CRN 108497-58-1

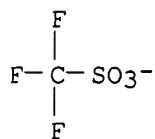
CMF C15 H13 N2 S2 Te2



CM 2

CRN 37181-39-8

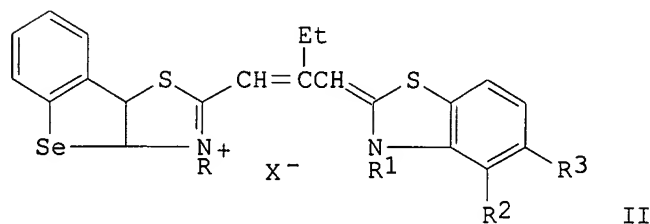
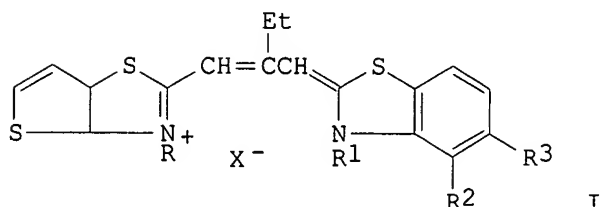
CMF C F3 O3 S



L55 ANSWER 30 OF 35 HCA COPYRIGHT 2003 ACS on STN

103:55426 Dyes substituted in a polymethylene chain, derivatives of thieno- and benzoselenophenothiazoles. Pinkin, L. D.; Priklonskikh, G. I.; Ponomareva, T. K.; Abramenko, P. I. (Vses. Nauchno-Issled. Inst. Khim.-Fotogr. Prom., USSR). Zhurnal Vsesoyuznogo Khimicheskogo Obshchestva im. D. I. Mendeleeva, 30(1), 119-20 (Russian) 1985. CODEN: ZVKOA6. ISSN: 0373-0247.

GI



AB meso-Et-substituted unsym. carbocyanines I, II, and the thieno[3,2-d]thiazole isomers of I [R = Et, (CH₂)₃SO₃⁻; R₁ = Et, (CH₂)₃SO₃⁻, (CH₂)₃SO₃K, (CH₂)₃SO₃⁻ Et₃NH⁺; R₂ = H, R₃ = OMe or R₂R₃ = benzo; X⁻ = I⁻, absent] were prep'd. by conventional means. Those carbocyanines with both R and R₁ as sulfoalkyl groups have high photog. sensitizing activity. In **Ag halide** emulsions they polymerize on the **Ag halide** particle surface, increasing the absorption λ_{max} by 70-80 nm.

CC 41-11 (Dyes, Organic Pigments, Fluorescent Brighteners, and Photographic Sensitizers)

Section cross-reference(s): 74

IT **97450-89-0P** 97450-91-4P 97450-93-6P **97450-94-7P**

97450-95-8P 97450-96-9P 97450-97-0P 97450-98-1P

97450-99-2P 97451-00-8P 97451-01-9P 97451-02-0P 97451-03-1P

97451-04-2P 97451-05-3P 97451-06-4P 97473-79-5P 97473-80-8P

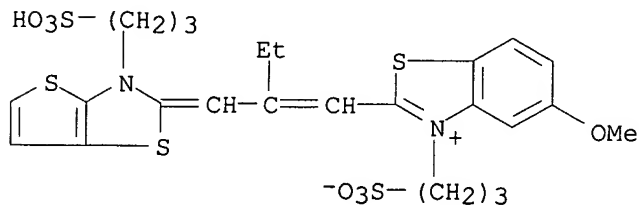
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(prepn. and spectral properties of)

IT **97450-89-0P 97450-94-7P 97450-95-8P**

RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(prepn. and spectral properties of)

RN 97450-89-0 HCA

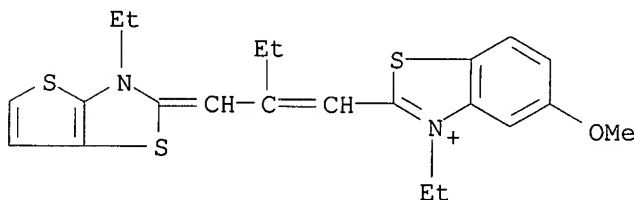
CN Benzothiazolium, 5-methoxy-3-(3-sulfopropyl)-2-[2-[[3-(3-sulfopropyl)thieno[2,3-d]thiazol-2(3H)-ylidene)methyl]-1-butenyl]-, inner salt, potassium salt (9CI) (CA INDEX NAME)



● K

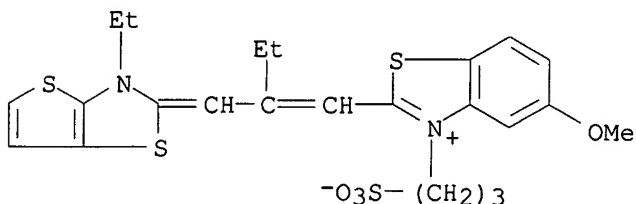
RN 97450-94-7 HCA

CN Benzothiazolium, 3-ethyl-2-[2-[(3-ethylthieno[2,3-d]thiazol-2(3H)-ylidene)methyl]-1-butenyl]-5-methoxy-, iodide (9CI) (CA INDEX NAME)

● I⁻

RN 97450-95-8 HCA

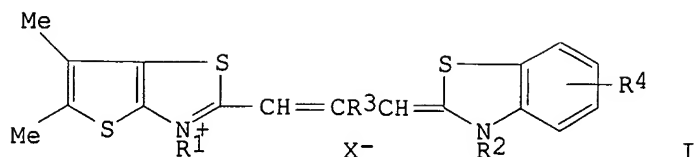
CN Benzothiazolium, 2-[2-[(3-ethylthieno[2,3-d]thiazol-2(3H)-ylidene)methyl]-1-butenyl]-5-methoxy-3-(3-sulfopropyl)-, inner salt (9CI) (CA INDEX NAME)



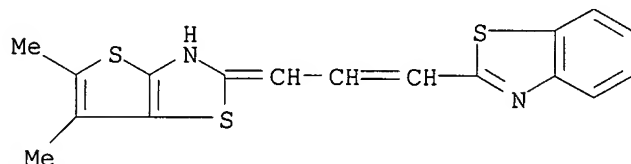
L55 ANSWER 34 OF 35 HCA COPYRIGHT 2003 ACS on STN

89:138374 5,6-Dimethylthieno[2,3-d]thiazolocarbocyanine dyes as spectral sensitizers of **silver halide** emulsions in the red region. Abramenko, P. I.; Zhiryakov, V. G.; Priklonskikh, G. I. (All-Union Scientific-Research Institute of the Photographic-Chemical Industry, USSR). U.S.S.R. SU 615110 **19780715** From: Otkrytiya, Izobret., Prom. Obraztsy, Tovarnye Znaki 1978, 55(26), 84. (Russian). CODEN: URXXAF. APPLICATION: SU 1977-2437286 19770103.

GI



- AB The title dyes I (R1, R2 = C1-4 alkyl or sulfoalkyl; R3 = C1-4 alkyl; R4 = H, C1-4 alkyl, MeO, or is benzo group; X- = anion or is absent when R1 and/or R2 = sulfoalkyl) are used as spectral sensitizers for **Ag halide** emulsions in the red region.
- IC C09B023-06
- CC 74-2 (Radiation Chemistry, Photochemistry, and Photographic Processes)
Section cross-reference(s): 40
- IT **67709-04-0D**, derivs., salts
RL: USES (Uses)
(photog. spectral sensitizers, for red region)
- IT **67709-04-0D**, derivs., salts
RL: USES (Uses)
(photog. spectral sensitizers, for red region)
- RN 67709-04-0 HCA
- CN Benzothiazole, 2-[3-(5,6-dimethylthieno[2,3-d]thiazol-2(3H)-ylidene)-1-propenyl]-, conjugate monoacid (9CI) (CA INDEX NAME)



● H⁺

- L55 ANSWER 35 OF 35 HCA COPYRIGHT 2003 ACS on STN
- 69:52935 Cyanine and merocyanine dyes derived from 4,4,5-trimethyl-4,5-dihydro-6H-thieno[2,3-b]pyrrole or 5,6,6-trimethyl-5,6-dihydro-4H-thieno[3,2-b]pyrrole. Zhiryakov, V. G.; Abramenko, P. I.; Sennikova, N. I. (All-Union Scientific-Research Institute of Chemical-Photographic Industry). U.S.S.R. SU 202728 **19670914** From: Izobret., Prom. Obraztsy, Tovarnye Znaki 1967, 44(19), 193. (Russian). CODEN: URXXAF. APPLICATION: SU 19661208.
- GI For diagram(s), see printed CA Issue.
- AB Dyes with the general structures I and II, where R and R' = alkyl groups; Z is the residue of 4,4-dimethyl-4,5-dihydro-6H-thieno[2,3-b]pyrrole or 6,6-dimethyl-5,6-dihydro-4H-thieno[3,2-b]pyrrole; Z1 is Z or the residue of another 5- or 6-membered heterocyclic base, e.g., benzothiazole, 3,3-dimethylindolenine, quinoline, or their derivs.; and X is an anion, optical sensitizers of **Ag halide** emulsions, are prepd. by condensing quaternary salts of 4,4,5-trimethyl-4,5-dihydro-6H-thieno[2,3-b]pyrrole or 5,6,6-trimethyl-5,6-dihydro-4H-thieno[3,2-b]pyrrole with the usual intermediates for the synthesis of polymethine dyes, e.g., 3-ethyl-5-(.alpha.-acetanilinomethylene)rhodanine, the

quaternary salts of 2-(.beta.-acetanilinovinyl)benzothiazole, or
2-(.beta.-acetanilinovinyl)-3,3-dimethylinodolenine.

IC G03C; C09B

CC 40 (Dyes, Fluorescent Brightening Agents, and Photosensitizers)

IT 19682-88-3P **19682-89-4P** 19682-90-7P **19682-91-8P**
19682-92-9P 19682-93-0P 19682-94-1P 19682-95-2P 21389-28-6P

RL: IMF (Industrial manufacture); PREP (Preparation)
(prepn. of)

IT **19682-89-4P 19682-91-8P**

RL: IMF (Industrial manufacture); PREP (Preparation)
(prepn. of)

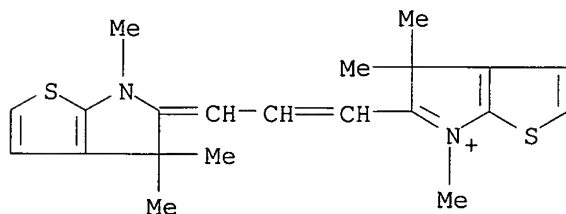
RN 19682-89-4 HCA

CN 4H-Thieno[2,3-b]pyrrolium, 5-[3-(4,6-dihydro-4,4,6-trimethyl-5H-thieno[2,3-b]pyrrol-5-ylidene)propenyl]-4,4,6-trimethyl-, perchlorate (8CI) (CA INDEX NAME)

CM 1

CRN 47442-88-6

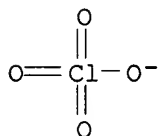
CMF C21 H25 N2 S2



CM 2

CRN 14797-73-0

CMF Cl O4



RN 19682-91-8 HCA

CN 4H-Thieno[2,3-b]pyrrolium, 6-ethyl-5-[3-(3-ethyl-2-benzothiazolinyldene)propenyl]-4,4-dimethyl-, iodide (8CI) (CA INDEX NAME)

